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Atran, Scott PhD.; Sageman, Marc M.D., PhD.; Ginges, Jeremy PhD.; Magouirk, Justin PhD.; Wright, Dominick'

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14. ABSTRACT

A major problem facing a rigorous and comprehensive study of Global Network Terrorism (GNT) is lack of strong, quantitative relational data that is freely available for scientific research in academic, policy, and government communities. Lack of relational data results in theorizing and theoretical modeling often divorced from important policy questions that the U.S. and allies face in ongoing efforts to counter GNT. There is any number of software programs designed to analyze data, but few meaningful relational data to be analyzed that could generate insight into the social, ethnic, historical and ideational ties that link terrorists to one another and to actions. To wed theoretical modeling to government policy we need to first organize a comprehensive, publicly available relational database that the research community can critically scrutinize, and which is constituted in ways to stimulate, guide and test theoretical models. Such knowledge, in turn, can foster more effective intervention and prevention policies.
This research provides a rigorous and comprehensive basis for study of GNT with (1) a people-based Relational Database from open sources that can be quantitatively, lawfully accessed by the larger scientific community (2) to address terrorist organizational

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Small Group Dynamics in the Evolution of Global Network Terrorism: A Comprehensive, People-Based Approach

Prepared for the Air Force Office of Scientific Research

Primary Investigator - Scott Atran
Executive Director – Dominick' Wright

Final Report – Part A
Selected Publications

Terrorism's Strategic Threat:
Stopping Hype from Turning into Self-Fulfilling Prophecy

Scott Atran

Research Director, Anthropology, National Center for Scientific Research, Paris
Visiting Professor of Psychology and Public Policy, University of Michigan
Presidential Scholar, Sociology, John Jay College of Criminal Justice

1. Exaggerating Threats

By itself, contemporary Islamist terrorism cannot destroy our country, or our allies, or even seriously damage any of us. Only we can do grievous harm to ourselves by taking the terrorists' bait and reacting in ill-conceived and uncontrolled ways that inflate and so empower our enemies, alienate our friends, and frighten our own citizens into believing that they must give up basic liberties in order to survive. It is in this sense that terrorism does pose an existential threat: to our most sacred values of individual freedom and choice, to our sense of personal and collective security, and to any hope of peace of mind. Our fitful reaction now risks further weakening and exposing less secure states, such as Iraq and Pakistan, to takeovers by extremist elements that could very well become a true strategic menace.

As matters now stand, material threats from non-state terrorists in general, and religious terrorists in particular, are exaggerated. A generation ago, at the height of the Cold War, the Soviet Union and the United States had tens of thousands of nuclear weapons that could annihilate much of the adversary's population in ninety minutes or so. Today's terrorists do not remotely pose such a threat. Even our darkest present fear, and the Department of Homeland Security's "worse case scenario" — the explosion of one or two 1-10 kiloton nuclear bombs by terrorists — pales by comparison.[1]

The 2007 U.S. National Intelligence Estimate focuses on "the rejuvenating effect the Iraq war has had on Al Qaeda."[2] But there is little evidence that Bin Laden or his close associates, who are thought to be holed up somewhere along the Afghan-Pakistan

frontier, have much operational knowledge or control of what is happening in Iraq. There is undoubtedly resurgent jihadi activity and training along that frontier, especially in Waziristan, involving remnants of Al Qaeda, the Taliban, and volunteers from Pakistani and Central Asian jihadi groups. There is more money, more (small) camps, more communication, more interactions among the leaders; however, despite the hype[3] this has apparently not extended much beyond the area.

There are attempts to enlist people with knowledge of the West, just as surely as would-be jihadis from Europe and elsewhere are trying to get to Iraq and Afghanistan. But the old Al Qaeda, which actually had an infrastructure that might have assembled a weapon for massive destruction, is gone. The mostly Egyptian and Saudi hardcore around Bin Laden has not launched a successful operation in years, and its remainder does not know who most of the new would-be terrorists are (mostly self-starting groups of amateurs), and cannot reliably communicate with those they do know about. The viral influence of Al Qaeda is diffuse and inspirational, not organized or operational. There are few, if any, Qaeda "cells" with well-defined boundaries, organizations or leaders – much less "sleeper cells."[4]

After some years of fact finding, statistical analysis and modeling from our team of researchers and consultants (including colleagues, post graduate researchers and graduate students from the University of Michigan, University of Washington, MIT, the City University of New York, and France's National Center for Scientific Research, as well as former intelligence operatives and members of jihadi terrorist groups), we think the that the chief problem of terrorism is not a strong or resurgent Al Qaeda organization directing global operations from Pakistan's Federally Administered Tribal Areas or anywhere else in particular. Terrorist dreams and actions today thrive mainly among the small groups and networks of youthful friends and their families in countless neighborhoods across the world, inspired by Al Qaeda's heroic and viral ideology of uncompromising but equal justice before God.

2. Publicity is the Oxygen of Terrorism

In the past, spectacular killings were common both to small tribes and great empires. Nearly three millennia ago, the ancient Hebrew tribes described in *Deuteronomy* were instructed by their no-name God not merely "to smite every male" in "the cities which the Lord thy God doth give thee for an inheritance," but "save alive nothing that breatheth," be it "the women, the little ones, and the cattle." Recent archeological excavations in the southwest United States strongly indicate that a thousand years ago or so competing Native American groups would feast on one another's men, women and children when victorious, and theatrically defecate their remains for others to see. A few centuries later, the Mongols would routinely butcher all who resisted them, and stack the skulls of their victims in gruesome displays for other would-be resisters to witness. After the killing, for the great Genghis Kan, "the greatest pleasure is… to see their near and dear bathed in tears, to ride their horses and sleep on the bellies of their wives and daughters." The early Spanish conquistadores would slaughter Indian idolators whenever they pleased, and savage the women to make them love Christ.

Today, most nations tend to avoid publicizing their more wanton killings (included most killings that might be labeled "state terrorism"), whereas publicity is the oxygen that fires modern terrorism.

Witness, for example, the reaction to the failed "doctor's plot" in the summer of 2007, when doctors who had recently immigrated to Britain and working for the National Health Service were arrested for packing gas canisters and nails into several cars and trying to blow up targets in London and Glasgow. The only real damage was he severe burning one of the car's drivers, an engineer who was a brother of one of the doctors and a cousin of another. Reaction from nearly all sectors of the British public to the actions of this so-called "medical cell" was almost indistinguishable in intensity from the reaction that followed the successful London subway bombings two years before. Britain's Foreign Secretary grimly predicted that the country must be prepared to combat terrorism for the next "ten to fifteen years" and so the "un-British" practice of informing on neighbors would have to be jettisoned to prevent the terrorists from "destroying our whole way of life."[5]

In the United States, the media reported that "dozens of FBI agents have been given a two-week deadline to run down more than 700 leads on an FBI 'worry list', developed in the wake of the failed attacks in London and Glasgow."[6] The head of the U.S. Department of Homeland Security responded with a "gut feeling" that Al Qaeda was planning a massive summer attack, but not based upon specific intelligence, and not serious enough to raise the alert level or take any concrete action.[7] The German Interior Minister reacted by proposing to scuttle his country's longstanding commitment to refrain from using military forces against people within the country, and to consider a security policy that would allow the indefinite detention and "targeted killing" of terror suspects: "Let's say someone knew in which cave Osama bin Laden is sitting. Someone could then fire a guided missile to kill him….If for example potential terrorists — so-called sleepers — cannot be deported, what will we do then?"[8] No matter if Bin Laden was really involved in setting up a "sleeper cell" – an unlikely prospect[9] – or if this small Cambridge-based group of family and co-worker friends self-radicalized. It's all "Al Qaeda."

Terrorists are directly responsible for violent acts, but only indirectly for the reaction that follows. To terrorize and destabilize, terrorists need publicity and our complicity. With publicity, even failed terrorist acts succeed in terrorizing; without publicity, terrorism would die down.[10] The irony is that press and publicity is also the oxygen of an open society. But this does not require that our leaders equate what is most scary and spectacular with what is really most threatening and politically important. By amplifying and connecting relatively sporadic terrorist acts into a generalized "war," the somewhat marginal phenomenon of terrorism has become a primary preoccupation of our government and people. It puts the lie to the constant refrain by our same leaders that "terrorists will gain nothing."

Terrorism now tops the behavioral agendas of our political parties. This means that no matter what the outcome of our democratic elections, terrorists will continue to hold sway over our society in ways only the most audacious and outrageous among them ever imagined, at least in their thinking about the short term product of their actions. In this sense, Bin Laden is already victorious beyond his wildest dreams – not because of anything he's done, but because of how we have reacted.

3. Zero-Tolerance for Jihad = "The Golden Age for Drug Dealers, White-Collar Crime and the Mob"

A good example of the hype and hysteria is the wild concern with prison radicalization in the United States. Western Europe has a population roughly the size of the United States. In France, Muslims represent less than 10% of the country's population (5-6 million out of 62 million), but about two-thirds of the prison population (40,000 out of 60,000 total).[11] In Spain, Muslims represent about 2.5 percent of the total population (1 million out of 40 million), but 16 percent of the prison population (8,000 out of 52,000). Many draw the wrong inference from these figures, namely, that Islam encourages criminal behavior.

What is seldom reported is that Muslims in the U.S. represent less than one percent of the population (2.3 million or so) and are about as *underrepresented* in prison populations as are U.S. Jews. The predictive factors for Muslims entering European prisons are pretty much the same as for African Americans entering U.S. prisons, namely, lack of: employment, schooling, political representation, and so forth. But nearly two-thirds of Muslims in the U.S. (65%) are foreign-born and nearly three-quarters of them (74%) buy into the American dream and believe they "can get ahead with hard work."[12] Overall, foreign-born Muslims in the U.S. have about the same education and economic levels as the general population, whereas foreign-born Muslims are 5-7 times more likely to be poor than non-Muslims in Britain, France and Germany, and nearly 10 times more likely to be poor in Spain.

Even in Europe, though, religious education is a *negative* predictor of Muslims entering prisons. Authorities consider only 2% of Muslim prisoners in Spain (160) to be jihadis or would-be jihadis.[13] In France, only 1% of Muslims prisoners (400) are considered to be jihadi. In the U.S. (not counting Guantanamo) , only a handful of Muslim inmates are known to have jihadi sympathies, and exactly two have been convicted of plotting an attack, or less than one ten-thousandth of a percent of the total U.S. Muslim population. But this is apparently enough to warrant the speculation that "Al Qaeda recruits in prisons…. Prisons are a prime, prime target for terrorist recruiting. It is a ripe population."[14]

In fact, this one prison plot had nothing with Al Qaeda recruitment.[15] The man who concocted the plot was Kevin Lamar James, the native-born son of a former Black Panther who was serving ten years for robbery in New Fulsom State Prison, a maximum-security prison outside Sacramento, California. He founded what he called the "Jami'yyat ul-Islam is-Sakeej" ("The Authentic Islamic Group,") in prison in 1997. According to

court documents, his goal was to recruit recent prisoners in the California State prison system to Jihad, focusing on those about to be released or paroled so that they could go on to establish "JIS cells" on the outside.

In prison, James recruited his cellmate, Levar Haney Washington, an Afro-American convert to Islam who had a criminal history as a gang member. James told Washington, due for release a year before James, to "go out and do something." In a hand-written "Blueprint 2005," James laid out what he expected Washington to do on the outside, such as: learning Arabic, recruiting people with no history of felonies and teaching them to recruit others, acquiring bomb expertise, producing and distributing propaganda, and taking measures to "blend into society." It was styled a bit on the so-called "Al Qaeda manual," which was publicly available on the internet. But there is no evidence of any direct connection between JIS and any other group.

After Washington's release, James made his new cellmate, Peter Martinez, his deputy. Together, James, Martinez and Washington began plotting to attack more than a dozen military and Jewish sites in the Los Angeles area on September 11, 2005. Washington recruited two others on the outside, Gregory Vernon Patterson and Hammad Riaz Samara. Washington fond Patterson and Samara in a local mosque, where they began taking about the invasion of Iraq. The conversation moved to a nearby apartment, where they psyched themselves up with images of inmates at Abu Ghraib prison being humiliated by their American captors. Patterson was an Afro-American convert to Islam with no criminal record. Patterson was from an upper middle class family, the son of a university professor. Samara, a Pakistani immigrant, was a naturalized U.S. citizen who also had no criminal background.

Their idea was a two-pronged attack using firearms, not a suicide mission. Samara authored a target list including the Israeli "Consulate of Zion" in Los Angeles, the ticket office of the Israeli airline El Al at the LA airport, and Jewish synagogues. The group even debated the idea of going to Saudi Arabia to carry out an attack, figuring that it would call more attention to their group than action in the U.S. They had big plans, some of them crackpot. But the plotters were resourceful, able to access and case the airfield at the LA airport through a duty-free store. "They were knuckleheads," one law enforcement agent told us, "but dangerous knuckleheads only two-months away from killing big time."

The plot unraveled after following a string of gas station robberies, when police in Torrance, California traced the number of a dropped cell phone to Patterson. At first, interrogators focused on Patterson, who they felt sure would break because of his middle class upbringing and no criminal history. But he refused to fold, telling interrogators to "drop dead" and "if this is my martyrdom, so be it." Patterson turned out to be the most ideologically committed of the four conspirators and to this day refuses to talk.

It was Washington, a hardened criminal, who "sung like a bird," as one interrogator told us, and ratted on the others because he already had two prior convictions and didn't want to be put away for life (under California's "Three-Strike Rule"). Washington confessed

that that the robberies were to get money to buy ammunition and guns to prepare "Jihad." He complained that James was always bugging him to get his tattoos taken off and find a wife in order to better "blend into society."

All were charged with conspiracy to levy war against the U.S. government through terrorism. All but James were charged with conspiracy to kill members of government. James, Martinez and Washington identified about forty inmates for recruitment as well as a few others from the outside, including African Americans, Hispanics, Middle Easterners and Whites. Six were deported, others remained in custody or were later paroled.

Over 400 FBI agents were assigned to the case (out of about 12,000 agents in the country). Agents from as far as Saint Louis were taken off other cases to cover the night shift of the FBI's Los Angeles contingent. If it were not for claims by three losers that they were jihadis, it's doubtful that anyone would have paid much attention. As one law enforcement agent told us, "Sure it's nuts: the political leadership has to change their song about 'zero tolerance' for anything that smacks of Jihad before we can get back to business." As one source at the White House put it: "It's the Golden Age for drug dealers, white-collar crime, and the mob." Of course, this is an overstatement: the FBI's success, or lack of success, in these areas has not changed appreciably since the rise of terrorism as a major concern. But the gist of White House official's remark is that zero-tolerance for terrorism is translating into less political concern for other violent ills of society.

This is not to deny that problems of domestic radicalization should be ignored and that serious, scientific studies should be encouraged in order to prevent the threat of domestic radicalization from self-prophesizing into the threat that too many already think it is. The susceptibility of the Black prison population to Islamist radicalization is a legitimate cause of concern. But as in the fight against epidemics, like AIDS or Avian Flu, opting exclusively for zero-tolerance can be counterproductive in the long run. So let's try our level best to prevent these things from happening, but let's prepare ourselves in the event they do to minimize the damage and contagion. No one can say that we will not continue to face constant dangers, or that terrorists will never again kill Americans and their allies. If we want to continue to live in the kind of free society that our forebears yearned and struggled for, there will always be risks and opportunities for others to do us harm.

4. Who Becomes a Terrorist and Why?

Princeton economist Alan Krueger, in his recent book *What Makes a Terrorist,*[16] produces data for three general findings: 1. poverty and lack of education are uncorrelated, or slightly negatively correlated, with being a terrorist or support for terrorism; 2. most terrorists stem from countries that are not poor but that restrict civil liberties; and 3. terrorism is mostly directed against democratic rather than authoritarian regimes. He then infers causes from these broad correlations: (A) poverty and poor education do not produce terrorism but denial of political freedom does; and (B) terrorists target democratic regimes because terrorists seek publicity and widespread panic and

democracies are more responsive to public opinion. These conclusions echo political scientist Robert Pape's best-selling book *Dying to Win*.[17]

A major problem with such works is the assumption that correlations with economic status, education level or degree of civil liberties usefully predict who or how people become terrorists. This mistaken premise misleads policymakers and researchers. It is the *social networks* and *group dynamics* of these networks that are key to understanding how terrorist networks form and operate, not the demographic profiles of individuals and whole populations.

Let us consider Islamic terrorism, the main focus of Krueger's book. The extremely high correlation between the countries of origin of Islamic terrorists and countries that limit civil liberties is true but uninformative. The same correlation holds for indefinitely many Muslim groups that have nothing to do with terrorism.

Only Al Qaeda is interested in attacking the "far enemy," that is, the United States and its allies. Isaac Ben Israel, an Israeli parliamentarian who currently heads his country's space agency, was former chief of air force operations and top military strategist in a successful campaign to stop Hamas suicide bombings. He told us that "Al Qaeda is a very different problem and is not ours; our operational problems with Hezbollah and Hamas involve regional networks with regional aims, although we are ready to help the United States with its global Al Qaeda problem whenever we can." Over 80 percent of people who have joined or expressed allegiance to Al Qaeda have done so outside their country of origin. This, of course, is not the case with Hezbollah or Hamas. Whether one joins jihad in the diaspora or in one's native country, and not country of origin *per se*, is the key factor how one is willing to use terrorism and against whom.

The correlation between terrorist acts and target countries indicating that democracies are victims more than autocracies is spurious. It requires accepting that attacks on U.S occupation forces in Iraq and Afghanistan are attacks upon U.S. democracy. In fact, there have been very few attacks carried out directly against western democracies, and only three with significant casualties (USA-9/11/01, Spain 3/11/04, Britain 7/7/05). There have been no major attacks against the democracies of Israel or Indonesia in the last two years, and two major attack in India outside the disputed territory of Jammu-Kashmir (both in Mumbai). There have been 2400 arrests related to jihadi terrorist activities in Europe, where civil liberties are guaranteed, and 3000 arrests in Saudi Arabia, where civil liberties are restricted.

Only in Iraq and Afghanistan has there been a continuing high rate of attacks against US-led coalition forces, which are increasingly perceived as occupation forces by large segments of the populations of these two countries. It is doubtful that reaction would be much different if invasion and occupation forces were those of a dictatorship, as with Soviet forces in Afghanistan in the 1980s. The world's newest and most active areas for suicide attacks are Pakistan and North Africa, where civil liberties are restricted. Over 200 people were killed in North Africa in 2007, mostly in Algeria. In Pakistan, nearly 500 were killed in suicide attacks between July and December 2007 (including former

Prime Minister Benazir Bhutto), more than have been killed in terrorist attacks in Europe in the last two decades. Local groups proclaiming allegiance or sympathy with Al Qaeda have claimed responsibility, but Qaeda has little if any operational command or control over these groups.

Consider, now, the relationship between socio-economic status and terrorism. To independently confirm Krueger's findings on Hamas we statistically regressed Palestinian support for suicide attacks against Israelis on education and income levels in three nationally representative surveys of Palestinians (West Bank and Gaza) from 1999, 2001 and 2005. We controlled for area of residence, refugee status, age, gender and religion. Income and education levels were unrelated to support for suicide attacks ($P < 0.1$). When there was a relationship between support for suicide attacks and economic variables we found, like Krueger, that income and education levels are modestly but *positively* correlated with support. In the 1999 survey wealthier Palestinians expressed greater support for attacks ($B = .08$, $SE = .03$, $t = 2.69$, $P = .007$), while more educated Palestinians showed greater support for suicide attacks in the 2001 ($B = .06$, $SE = .02$, $t = 3.05$, $P = .002$) and 2005 ($B = .07$, $SE = .02$, $t = 3.25$, $P = .001$) surveys.

But when we turn to Al Qaeda's principal Southeast Asian ally Jemaah Islamiyah (JI), we find something different. We analyzed every attack by Southeast Asia's Jemmah Islamiyah between 1999 and the second Bali bombing of 2005 and enter demographic details on all known operatives. Of 180 people implicated in JI attacks, 78 percent worked in unskilled jobs, only 23 percent had education beyond high school.

We also found that operational associations in JI are determined by four variables: 1. being a member of the self-styled "Afghan Alumni," that is, someone who went through training with the Indonesia volunteers in the Abu Sayyaf camp during the Soviet-Afghan War and its immediate aftermath, 2. continuing to work together (e.g., on Abdullah Sungkar's chicken farm in Malaysia) or to play soccer together after demobilization from Afghanistan (and before JI was officially set up), 3. having studied or taught in at least one of the two religious schools established by JI's founders (Al Mukmin in Java and Lukman Al-Hakiem in Malaysia), 4. being related by kinship or marriage to someone else in the network (e.g., there are over 30 marriages woven through 10 attacks). In contrast to these factors, we find that the knowledge of JI's "official" organizational structure is practically worthless in helping us to understand the networks involved in JI attacks

Levels of education and skill are significantly higher for Hamas than for JI. Nevertheless, the main predictors for involvement in suicide attacks are again small-world aspects of social networks and local group dynamics rather than large-scale social, economic and political indicators, such as education level and economic status. For example, Hamas's most sustained suicide bombing campaign in 2003 involved seven members of the local soccer team of Hebron's Abu Katila neighborhood, four of whom belonged to one kinship group (the Kawasmeh clan). A closer look at actual bombings reveals that almost all are rooted in local networks of pre-existing social relationships.

The most complete data in Krueger's book concerns Hezbollah and Hamas. There is a secondary focus on Al Qaeda. For all three cases, the data is old and of questionable relevance to global terrorism today. Hezbollah ceased suicide bombings and attacks on civilians (outside of open war) by the 1990s. Hamas stopped suicide attacks in 2004. Al Qaeda central, the command set up by Osama Bin Laden in the summer of 1988 and which was involved in the 9/11 attacks, has had no direct success in carrying out a terrorist operation since 2002 (the Djerba, Tunisia bombings), although it had a hand in prior financing of operations carried out later (Istanbul bombings 2003) and in training people implicated in subsequent attacks (about 50 suicide bombers involved in attacks in Saudi Arabia through April 2005).

The original Al Qaeda group around Bin Laden (mostly Egyptians) has been decimated. Al Qaeda's surviving remnants are mostly concentrated in a handful of small mobile camps in Pakistan's Federally Administered Tribal Areas. The largest remaining Qaeda camp in 2007, Mir Ali in North Waziristan, has had a few dozen trainees under the tutelage of Abu Ubaydah Al-Masri. Al-Masri instructed those responsible for the summer 2006 suicide bombing plot to smuggle liquid explosives aboard twenty passenger jets, and he has likely been involved in a few other dangerous but so-far unsuccessful plots.

For the most part, the "new wave" of terrorism that expresses allegiance to Al Qaeda tends to be poorer, less educated and more marginal than the old Al Qaeda or its remnants. It relies to a greater extent for financing and personnel on pre-existing petty criminal networks because large-scale financing is easily tracked (9/11 cost some $400,000 followed by the 2002 Bali and 2004 bombings at about $50,000 each, with all others considerably less). The Saudi Ministry of Interior ran a study of 634 detainees through 2004 and is presently finishing a study of 3000. We have seen the data and the newer Saudi wave also tends to be younger, poorer and less educated. Even in the older cohort there was little traditional religious education; however, the newer cohort tends to be less ideologically sophisticated and especially motivated by desire to avenge perceived injustice in Iraq. This "new wave" pattern of increasingly marginality and "born-again" religion is reflected in European and North African groups that express allegiance to Al Qaeda, as well as foreign fighters in Iraq (41 percent from Saudi Arabia and 39 percent from North Africa since August 2006).

Krueger and others repeatedly refer to predictive factors in "recruitment." It is important to understand that there is, and has never been, clear evidence of "recruitment" into Al Qaeda. In its heyday Al Qaeda operated more like a funding agency than a military organization. People would come to Qaeda with proposals for plots. Qaeda would accept some 10-20 percent. Even the 9/11 suicide pilots were not "recruited" into Al Qaeda. They were Middle Eastern Arabs who lived in a middle-class Germany community (the Hamburg suburb of Harburg) and were seeking friendship and identity in an Islamic community that was mostly Moroccan. Our interviews with friends in their circle and investigators reveal that the plotters met in the dorms and started hanging together, including going to mosque services and meeting in local restaurants. Three wound up living in the same apartment, where they self-radicalized. They first thought of going to Chechnya to do jihad (but getting there proved too difficult) then to Kosovo (but the

Albanian jihadis didn't want them), and eventually wound up in an Al Qaeda training camp in Afghanistan as a distant third choice.

There is no evidence that Al Qaeda has ever had any recruiters or trainers in Europe or elsewhere. People go looking for Al Qaeda, not the other way around. Because there is very little of the old Al Qaeda left, many who go seeking Al Qaeda are caught. Those who seek out Al Qaeda do so in small groups of friends, and occasionally through kin. Almost all are schoolmates or workmates, and soccer or camp buddies. Only a minority has gone beyond high school. Some have steady jobs and family, many have only intermittent jobs and no families of their own. All have self-radicalized as friends before they go after Al Qaeda, although an encounter with someone who has been to a Qaeda training in camp in Afghanistan is occasionally an added stimulant. The overwhelming majority have not had sustained prior religious education but become "born again" into radical Islam in their late teens and early 20s. About ten percent are Christian converts.

For example, in the wake of the Iraq invasion in April 2003, a disciple of the radical Islamist preacher Sheikh Omar Bakri, organized a barbecue in a London suburb for about 100 people, most from the immigrant Pakistani community. Guests were asked for donations to help send a few volunteers to Pakistan to train for Jihad. Among those who used some of 3,500 euros collected to pay their way to Pakistan were Mohammed Sidique Kahn, one of the four suicide bombers in the July 2005 London Underground attack, and Omar Khyam, one of the conspirators convicted in the 2005 "Crevice" plot to plant fertilizer bombs around London. Their original intention was to do Jihad in Kashmir, but after a quick course in bomb-making they were told to "go home" and do something there. Each joined up on their own with a few friends to concoct a plot. One of the four London suicide bombers was a Jamaican Christian convert and pin-ball buddy.

Another telling example is the Madrid training bombing in March 2004. Five of the seven plotters who blew themselves when cornered by police grew up within a few blocks of one another in the tumble-down neighborhood of Jemaa Mezuaq in Tetuan, Morocco. One, nicknamed the "Chinaman," fled Morocco in 1993 from a murder charge, joining his elder brother in Madrid in taking and dealing drugs. In 1995, with his teenage Christian girlfriend and fellow junkie five months pregnant, The Chinaman decided to kick his heroin habit. His wife says he did it cold turkey with the help of the religion he was getting in a local mosque. The Chinaman turned around to preach reform to his drug-dealing associates, three brothers from the Mezuaq, convincing two of them to quit their habit. The two brothers became devoted to the Chinaman, and thereafter known in the barrio as his "bodyguards."

The fourth of Madrid's Moroccan suicide bombers was described to us by some of his friends as Mezuaq's first "Afghan" (a religious militant who grows a full beard who dresses with an Afghan hat, coarse knee-length tunic and sandals). He would preach jihad against "infidels" (*kuffar*) and Muslims who merit "excommunication" (*takfir*) because they refuse to follow "pure" (*salafi*) Islamic ways. The father and friends of the fifth suicide bomber, a young gay man in his early 20s known as "The Kid," told us that he had sold candies from a cart in Mezuaq until 2000. He did not care much for religion

until he became hooked up with The Afghan. By 2002, The Afghan and The Kid were in Madrid, the former as a part-time construction worker who dealt drugs with the Chinaman's "bodyguards," and the latter devoting himself to charity work helping out other young immigrants.

During March-December 2007, we went to the Mezuaq, and discovered that at least a dozen other young men had "gone Afghan" since the summer of 2006. Each would one day suddenly shave his beard, don western clothes and simply disappear; sometimes two vanished on the same day. Their friends and local Moroccan police tell us they probably left for Iraq to become martyrs. We have confirmed the names and itineraries of six of them (DNA analysis has confirmed the suicide bombing death of one in Baqubah, Iraq). Five of the six attended a local elementary school (Abdelkrim Khattabi), the same one that Madrid's Moroccan bombers attended.

In fact, all five of the Iraq-bound group were in the same class through elementary school, and four of the five were in the same high school class (the fifth, a brother of one of the four, was a gifted mathematics student who went on to receive a scholarship to Morocco's prestigious air-force academy, the École Royale de l'Air). The cousin of one of them was married to The Afghan, and all prayed in the same mosque where The Afghan first preached Jihad (the mosque's Imam was arrested in 2006 for collecting charity money from local business men to help send young men to Iraq). Friends say the young men bound for Iraq all respected what the Madrid plotters had done but believed that action in Iraq would be more just and courageous than in Europe. Like the Madrid plotters (as well as the Hamburg and London plotters), they were soccer buddies, hung out at the same cafés and restaurants, and mingled in the same barbershops (where young men gather and talk).

A closer look at other terrorist groups reveals strikingly similar patterns of self-radicalization based on almost chance encounters within pre-existing local circles of friends and kin. Former CIA case officer Marc Sageman Marc Sageman analyzed Qaeda networks through 2003 and found that about 70 percent join with friends and 20 percent with kin. In his new book *Leaderless Jihad (University of Pennsylvania Press, 2007)*[18] Sageman finds that more recent networks are also built up around friendship and kinship but members are more marginal relative to surrounding society.

The boundaries of the newer wave networks are very loose, and the internet now allows anyone who wishes to become a terrorist to become one, anywhere, anytime. For example, the "Al Ansar" chat-room network involved plotting in half a dozen countries (U.S., U.K., Canada, Sweden, Denmark, Bosnia) by young men, many of whom had never physically met with one another. They would hack into Midwest media sites to post jihadi videos (e.g., of Zarqawi's beheading of Nick Berg) and recipes for making car bombs and suicide vests from scratch. From a basement apartment in Britain, a self-styled Irhabi 007 ("Terrorist 007") helped in his spare time to coordinate plots with some high school buddies in Toronto to blow up the Canadian parliament, and with others to attack the U.S. embassy in Bosnia (3 conspirators who did meet up physically in Bosnia were arrested with AK 47's, suicide belts, and thousands of rounds of ammunition).

A main problem in terrorism studies is that most "experts" have little field experience (for understandable but not insurmountable reasons) and otherwise lack the required level of details that statistical and trend analyses could then properly mine. There are many millions of people who express sympathy with Al Qaeda or other forms of violent political expression that support terrorism. There are, however, only a few thousands who show willingness to actually commit violence. They almost invariably go on to violence in small groups consisting mostly of friends, and some kin.

Terrorist groups arise within specific "scenes": neighborhoods, schools (classes, dorms), workplaces, common leisure activities (soccer, mosque, barbershop café) and, increasingly, online chat-rooms. The process of self selection into terrorism occurs within these scenes. It is stimulated by a massive, media-driven transnational political awakening in which Jihad is represented as the only the way to permanently resolve glaring problems of global injustice. This incites mortal outrage against perceived attacks upon Islam. If this moral outrage resonates with personal experience that reverberates among friends in a scene, and if aspects of the scene are already sufficiently action-oriented (e.g., soccer team, study group), then willingness to go out and do violence together is much more probable.

5. Terrorism and Radicalization: What Not to Do, What to Do

Classic military and counterterrorism strategies are rooted in cost-benefit analysis, which was appropriate to the Cold War but not to transnational terrorism. For example, the Quadrennial Defense Review sumises that it is critical to "minimize" U.S. costs in lives and treasure, while imposing "unsustainable costs on the enemy." But to a significant degree, Jihadis do not respond to a utilitarian cost-benefit analysis. (For Example, the Summer 2006 airport plotters knowingly chose the targets most watched; the 2007 Ulm plotters in Germany knew they were being watched and flaunted this knowledge.) These people respond to moral values, and are more than willing to die for the cause. Each death inspires many more young Muslims to join the cause. Indeed, a utilitarian perspective plays into the hands of terrorists: U.S. and allies try reduce peoples to material matter rather than moral beings.

- Social welfare is not a solution, and only adds to alienation and boredom, and to a hole in one's life that is more readily filled by *Takfiri* dreams of justice and glory.
- Especially in the Middle East and elsewhere, do NOT attempt to discredit *Salafi* ideology as long as it is non-violent. Non-Muslims should NEVER preach to Muslims about what is the true Islam. This ALWAYS backfires.
- Stop trying to impose ethnocentric values of Freedom and Democracy on people. Imposing democratic institutions without cultural grounding backfires. Elections are meaningless unless the majority elected feels obliged to consult the minority and treat it with tolerance, and to allow that the majority may become the minority. It takes time, patience and deep commitment to persuade people of this.
- PEW surveys show that in the Muslim world support of "Freedom and Democracy" has declined since the onset of the Iraq War. The centerpieces of

Salafism, like much traditional Muslim social and political ideology, are Justice and Fairness, not Freedom and Democracy. Western notions of Freedom are compatible with Justice, and Democracy with Fairness, but not in any "automatic" way.

- Stop wasting millions of dollars studying the Koran and trying to figure out what terrorists think from studies of Islam. Terrorists are rarely Islamic scholars or know much anything about the Koran.
- They are almost always "born-again" (including about 10% non-Muslim converts who are born again into militant Islam). In U.S. prisons, the problem is mostly with Afro-American converts from Christianity (for almost exactly the same socio-economic reasons that make Muslims in European prisons susceptible).
- Stop wasting hundreds of millions of dollars with widgets: predictive modeling of inherently unpredictable localized, evolutionary processes that depend to a great extent on unforseen opportunities and contingent happenings (evolutionary modeling is much better, provided it is context-sensitive).
- Stop trying to generate a catch-all approach to terrorist profiling, radicalization processes, etc. These are very context-sensitive. What goes for one context (e.g., radicalization in a country of origin) often does not translate directly into another (radicalization in the immigrant diaspora).
- Prison radicalization in the USA vs. Europe is a good example:
- Foreign-born Muslims, like Jews, are underrepresented in American prisons. But Muslims in European prisoners are wildly overrepresented (for many of the same reasons that Blacks in U.S. prisons are overrepresented). Nevertheless, prior religious education is a negative predictor of radicalization.

- Tsunami relief is a good example of what works (but intermittent, not sustained). USAID programs too spotty, short-term for "Long War."

More Public transparency by law enforcement is important:
.
- Scotland Yard's approach is hamstrung by law:
  - Under UK law no disclosure of evidence or reasons for arrests are permissible before trial outcome (usually 4 years). Public is supposed to simply Trust the authorities that they got it right (killing of Brazilian subway rider after 7/7/05 shows authorities can be very wrong).
  - This creates massive distrust in the community.
- Spanish justice is worse: Plagued by politics; no plea bargaining for "crimes of blood"; lack of coordination in investigation between CNI, Guardia Civil, Police.
  - Result: Madrid bombing trial outcome and sentencing do not reflect the plot and the responsibility of the accused.
- The NYPD approach is much better:
  - Have police and terrorist task force mirror the community's ethnic composition and be open with community leaders: "None of us wants trouble so let's work together to prevent any."
- Turkish National Police (with authority of CIA and FBI combined) is very good:

- Intelligence operatives well-trained (4 years of college, 150 PhD candidates, many in USA: Columbia U, Rutgers, U Texas, etc.).
- After Istanbul bombings, track movements to Pakistan, Afghanistan, Iraq, etc.
- When people come back they visit them, bearing gifts: "We don't want trouble so let's see what we can do together to prevent it."
- Don't ask too much and don't press too hard at first, let it come out over time.
- Gifts at Ramadan to families, help with medical problems, job assistance, and so on.
- Use officers knowledgeable in religion to talk to the people.
- Result: no attacks since Nov 2003 Istanbul bombings from Turkish Islamists, and police are well-informed of what is happening in Islamist circles.

It is important to recognize and deal with structural problems of social alienation (especially in Western Europe) so that notions of a "War on Islam" as perceived through the media (television, internet) do not resonate personally. If police are intrusive and culturally alien, then the "War on Islam" will be more heartfelt.

- Provide alternate local networks and chat rooms that are enticing for young people. This is what the Boy Scouts and High School football teams successfully did for immigrants and potentially troublesome youth in the USA. It works.
  - The greatest predictor of whether a sympathizer of violent jihad will actually go on to violence is whether or not he and his buddies belong to an action-oriented group (often a soccer team) and then go on to violence as a group. There are no real lone wolfs (although with the emerging importance of the internet we are starting to see lone actions of people who belong to a virtual community).

In the long run, perhaps the most important counter-terrorism measure of all is to provide alternative DREAMS and HEROES that youth can connect with.
  - Look at the new comic book series of Muslim superheroes, modeled on Marvel comics, that is catching the attention of Muslim youth in Indonesia and now around the world.

It is faith in Dreams and Heroes, perhaps more than industry and power, gives impetus to lives and civilizations.

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[1] Such a "gun-type" device, weighing over 500 kg, consists of four elements: a "gun" that shoots a "uranium bullet" from one end of a "rail" to a "uranium target" at the other end. Neither the bullet nor target have enough Uranium-235 to generate a chain reaction, but when slammed together a "critical mass" is achieved sufficient for a nuclear explosion. According to physicist Richard Garwin, who built America's first hydrogen bomb, the minimum "fizzle bomb" needed to do serious damage is estimated to be about one kiloton, and could be fabricated in a small apartment. The effective distances within which (roughly speaking) all the people die and all those outside survive are shown in the table below:

Summary of ranges for significant effects (in meters).				
Yield (kt)	(a)*	(b)*	(c)*	(d)*
1	275	610	790	5500
10	590	1800	1200	9600

a* Range for 50% mortality from air blast (m)
b* Range for 50% mortality from thermal burns (m)
c* Range for 4 Gy initial nuclear radiation (m)
d* Range for 4 Gy fallout in first hour after blast (m) (downwind)

As Garwin notes: "Although a country would not be destroyed by such an explosion, it could ruin itself by its reaction." Richard Garwin, "Nuclear and Biological Megatorrism," Report to the 27th Session of the International Seminars on Planetary Emergencies, World Federation of Scientists, Erice, Italy, 21 August 2002, available online at www.fas.org:rlg/020821-terrorism.htm; and personal communication 11 February 2005.

[2] The National Intelligence Estimate's key judgments are available online at www.dni.gov/press_releases/20070717_release.pdf.

[3] Katherine Shrader, Matthew Lee, "Al-Qaida Plots New Attacks on U.S. Soil," Associated Press wire, 17 July 2007; available online at http://apnews.myway.com/article/20070717/D8QEKKBG1.html.

[4] A "sleeper" is a planted agent who lives a normal life in the host country until activated years later. The only sleeper in America over the last century was Soviet Colonel Vilyam Fisher (aka Rudolf Abel) who was arrested in the late 1950s and exchanged in 1962 for CIA spy pilot Francis Gary Powers (shot down over the USSR and captured in May 1960). Former counterterrorism czar Richard Clarke (Against All Enemies: Inside America's War, Free Press, 2004) and former CIA director George Tenet (At the Center of the Storm: My years at the CIA, HarperCollins, 2007) continue to claim that the U.S. is awash with "sleeper cells" – a sentiment widely echoed in the media: "The law of averages would indicate the near certainty of sleeper cells in the United States," Arnaud de Bourchave, "Terror Wars: The Missing Sleeper Cells," United Press International (online), 3 May 2007.

[5] British Foreign Secretary Sir Alan West, cited in "Londres craint un combat de 'dix à quinze ans' contre le terrorisme," Le Monde, 10 July 2007.

[6] Brian Ross, Richard Esposito, Chris Isham, "White House, FBI Agents Race to Disrupt 'Summer of '07' Threat,"ABC News, 11 July 2007.

[7] Katherine Shrader, "Officials Worry of Summer Terror Attack: Homeland Security Secretary Michael Chertoff Warns of Increased Risk of Attack This Summer," Associated Press wire, 11 July 2007; available online at http://abcnews.go.com/Politics/wireStory?id=3363551.

[8] German Interior Minister Wolfgang Schaeuble in an interview with Der Spiegel, 9 July 2009; available online at http://www.spiegel.de/international/germany/0,1518,493364,00.html.

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[10] See Francisco Laporta, "Sobre la pervivencia del terror," El Pais, 2 July 2007.

[11] Farhad Khosrokhavar, L'Islam dans les prisons, Balland, Paris, 2004.

[12] Pew Research Center Survey, Muslims in America: Middle Class and Mostly Mainstream, 22 May 2007; available online at http://pewresearch.org/assets/pdf/muslim-americans.pdf.

[13] Briefing with Spanish Central Intelligence (CNI), Madrid, 28 May 2007.

[14] "Terror Plot Hatched in California Prison: Authorities Thwart Attack Intended for Next Month," ABC News, 16 August 2005:available online at http://abcnews.go.com/WNT/Investigation/story?id=1042853.

[15] Interviews with FBI personnel, April 2007.

[16] A. Krueger (2007) *What* Makes a Terrorist: Economics and the Roots of Terrorism Princeton: Princeton University Press, 2007.

[17] R. Pape (2005) Dying to Win: The Strategic Logic of Suicide Terrorism. Chicago: University of Chicago Press.

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CHAPTER SIX

NONINSTRUMENTAL REASONING OVER SACRED VALUES: AN INDONESIAN CASE STUDY

Jeremy Ginges *and* Scott Atran

Contents

Abstract

We present evidence of noninstrumental reasoning over sacred values from field experiments in real world conflicts. We argue that claims to sacred or protected values are not claims to infinite utility, as people can and do order their preferences for different values they hold sacred. Instead, sacred values are defined by a taboo against measuring moral commitments along an instrumental metric. This definition allows us to predict contexts in which people will be relatively rigid or flexible in their judgments and decisions over sacred values. To demonstrate noninstrumental reasoning over sacred values, we review previous studies with Israelis and Palestinians demonstrating the "backfire effect," where offering added material incentives to encourage compromise over sacred values leads to greater opposition to compromise. We then present data from a new study of Indonesian madrassah students replicating the backfire effect using a within-subjects design where the instrumental advantages of the added material benefits were transparent.

1. Introduction

The rational actor model dominates strategic thinking in all levels of government policy (Gaddis, 1995) and military planning (Allison, 1999) as well in risk assessment and modeling by foreign aid and international development projects run by institutions such as the World Bank and many NGOs (Atran et al., 2007). The prevailing view is that the choices of actors in political disputes are instrumentally rational, driven by a strict cost-benefit calculus (Varshney, 2003). However, in many intergroup conflicts, people collectively construe resources, issues, or rights under dispute to be what has variously been called "protected" or "sacred" values. In this chapter we will discuss how this transformation leads to noninstrumental behavior, and some of the consequences for real world political conflicts.

1.1. What are Sacred Values?

We begin with a discussion of what it means for a value to be "sacred." Typically, sacred values have been defined as values to which people declare infinite commitment (Baron and Spranca, 1997; Tetlock, 2003). For example, Phillip Tetlock describes a sacred value

> ... as any value toward which a moral community proclaims, at least in rhetoric, an unbounded or infinite commitment (Tetlock, 2002).

Tetlock's operational definition of sacred values is almost identical to Jonathan Baron's definition of "protected values". Baron and Spranca (1997) argue that protected values are indicated when people "refuse to answer .... sensibly" when they are asked how much money they would accept to compromise a value:

> Some people say that human lives — or human rights, or natural resources — are infinitely more important than other economic goods. These people hold what we call protected values (Baron and Spranca, 1997).

It is understandable that scholars have questioned the veracity of claims to sacred or protected values, given that these claims are seen as declarations of infinite commitment. It seems impossible for someone to have a value with true infinite utility, as that value would dominate one's life completely, taking up all of a person's time and resources. Baron and Leshner (2000) argue that protected values may be thought of as poorly constructed concepts, a product of "unreflectiveness" in those who hold them "that leads to incorrect or overgeneralized concepts." Under this interpretation, people may declare a value sacred or protected without thinking through this commitment with sufficient rigor. Indeed in a series of studies with university students and internet samples, Baron and Leshner (2000) show that when people are

asked to think about counterexamples, or are asked to think about what would happen if one protected value might conflict with another, they demonstrate significant flexibility where compromise, previously unimaginable, was found. In one experiment university students were asked whether prohibitions against 13 different actions (such as cutting down all the trees in an old-growth rain forest, electing a politician making racist comments, or sterilizing retarded women) were "protected" and then asked them to think of counterexamples where the action might not be a protected value. This request resulted in substantial flexibility for 10 % of protected values where, upon reflection, counterexamples were found.

While unreflectiveness may explain these results, we believe the flexibility reported may be an artifact of the experimental context rather than a reflection of everyday behavior in the domain of sacred or protected values. It would not be unreasonable to suggest that many of the participants in the study may have been exploring different types of ideological commitments without a great deal of reflection. In these cases, challenges may lead to flexibility. However in many real world contexts, unreflectiveness may be a product of commitment rather than a cause of commitment. Taboos against reflecting on sacred values may reflect the collective devotion of a network of people to moral commitments.

Tetlock and colleagues have also demonstrated the limits of apparently absolute commitments to values. For example, Tetlock et al. (2000), in studies using North American college students as participants, have demonstrated that outrage against violators of sacred values is mitigated in dilemmas where people are forced to trade off one sacred value against another (for example choosing between two human lives), as long as the decision maker demonstrates an awareness of the significance of the moral dilemma. This type of finding has led to the argument that

> ...sacred values are merely *pseudo-sacred* and ordinary citizens are prepared
> — when elites present good arguments or tempting inducements — to
> abandon the illusion that certain values are infinitely important (Tetlock,
> 2003 — italics are ours).

Tetlock (2003) portrays sacred values as being deeply felt but essentially rhetorical devices that establish and maintain community identity; both from the perspective of the individual seeking to maintain his or her place in their community and from the perspective of community members judging other individuals. Thus he explains flexibility of commitment to ostensibly sacred values: because sacred values are essentially rhetorical devices, they are easily compromised by simple rhetorical techniques so as to cope with "the real world of scarce resources" (Tetlock, 2003).

While both Tetlock and Baron are able to explain flexibility over sacred values, their approach does a poorer job of explaining the type of radical resistance to compromising sacred values we witness in many real world

conflicts. People will frequently give up their lives, and sacrifice the lives of kin to defend moral commitments — to land, religion, or nation. Because one's life is the ultimate "reality constraint," the notion that flexibility over sacred values is simply done when the instrumental motivations are great enough seems difficult to believe. This observation is buttressed by results from interviews, surveys, and experiments we have conducted. For example, we interviewed 12 self-identified recruits for martyr attack from Hamas (in Nablus and Gaza City) and 12 members from Indonesia's *Jemaah Isla-miyah* (in Poso, Sulawesi). All were asked questions of the sort, "What if your family were to be killed in retaliation for your action?" or "What if your father were dying and your mother found out your plans for a martyrdom attack and asked you to delay until the family could get back on its feet?" To a person they answer along lines that there is duty to family but duty to God cannot be postponed (Atran, 2005, 2006).

This way of thinking does not seem limited to small groups of highly radicalized individuals. In 2006 we surveyed 714 Palestinian university students across 14 campuses in the West Bank and Gaza and asked them to rate, on a scale of 1 ("completely acceptable") to 4 ("completely unac-ceptable") their approval of a would-be Palestinian suicide attacker indefi-nitely postponing his or her attack for different reasons. Mean disapproval was higher in response to indefinite delay to prevent the killing of his or her entire family in retribution for the attack ($M = 2.35$, SD $= 1.19$) than an indefinite delay to take care of an ill-father ($M = 2.05$, SD $= 1.07$; $t(606) = 5.623$, $p < .001$). This is an example of moral commitments trumping instrumental realities for ordinary people for whom the consequences of such decisions are not simply hypothetical but are part of their everyday lives.

1.2. Redefining Sacred Values to Predict Rigidity and Flexibility

A good theory of sacred values needs to be able to explain when people will show flexibility over sacred values, but also when people will be resistant to flexibility.[1] It needs to predict when sacred values may be reframed or compromised on the one hand, and the reality of acts like suicide bombings or a monk's self immolation (Gambetta, 2005) on the other. To do this we sought to build on the important work of Baron and Tetlock by subtly redefining sacred values.

Most research on sacred or protected values defines a value as being sacred when participants say "I would not do/would do ___ no matter what the cost or the benefit". Both Baron and Tetlock argue that when people

make a statement such as this, they are making an assertion that a value has infinite worth for them. Tetlock further argues that it is this infinite worth which "precludes comparisons, trade-offs, or indeed any mingling with secular values" (Tetlock, 2003).

We argue to the contrary that claims to sacred or protected values do not mean claims of infinite utility. We regard it as relatively uncontroversial that people can rank sacred values, and if sacred values can be ordered relative to each other they cannot be of infinite value. Emile Durkheim notes that a significant feature of religion is that it constitutes a system of beliefs and rites where "sacred things have relations of coordination and subordination to one another" (Durkheim, 1912/1995, p. 38). Indeed, in our own studies of religious and politically active samples of Israelis, Palestinians, and Indonesians we often ask participants to rank moral values such as belief in God and duty to family. Refusal is extremely rare and we find that people see the task as relatively intuitive.

If it is possible to rank sacred values, it is impossible that a central feature of membership in the category "sacred value" is "infinite worth." Instead, we regard sacred values as being defined simply by their separation from the secular or profane domain of everyday life. As Durkeim argues,

> The sacred and profane are always and everywhere conceived by the human intellect as separate genera, as two worlds with nothing in common. ... They are different in kind (Durkheim, 1912/1995, p. 36).

We contend that when people say that no amount of money is worth compromising a behavior or resource, they are not saying that the behavior or resource is of infinite utility. Instead they are saying that their moral (or sacred) commitments cannot be measured along an instrumental (or profane) metric, expressing a reluctance to mingle the sacred/moral domain with the secular/material domain. To return to Durkheim,

> The mind experiences deep repugnance about mingling, because the notion of the sacred is always and everywhere separate from the notion of the profane ... and because we imagine a kind of logical void between them (Durkheim, 1912/1995, p. 37).

Defining sacred values in this way restates the issue and parsimoniously explains both inflexibility and flexibility when reasoning about sacred values. Inflexibility will occur in response to requests to measure commitments to sacred values along an instrumental scale, when people are asked to compromise a sacred value in exchange for some material outcome (a so-called *taboo* trade-off). Flexibility over sacred values will occur when asked to rank commitments between sacred values (a so-called *tragic* trade-off). Redefining sacred values in this way has led to nonobvious predictions regarding decision making in the domain of sacred values. Consider the issue of whether judgments and decisions about sacred values are truly

noninstrumental reasoning as we claim. Tetlock (2003) argues against this proposition. He interprets experimental evidence of flexibility over sacred values to imply that when the instrumental stakes are great enough people commonly use simple techniques that allow them to be flexible about commitments to "pseudosacred" values. The corresponding prediction is that instrumentally better deals to compromise sacred value will produce more flexibility.

Our redefinition of sacred values led to the opposite prediction. We predicted that adding material incentives to compromise over sacred values would increase the saliency of the taboo against mingling the sacred with the profane, and so lead to greater opposition to compromise. We call this the "backfire effect" as instrumentally better offers to compromise sacred values are predicted to lead greater opposition to the compromise.

2. TESTING THE "BACKFIRE EFFECT" IN THE ISRAELI–PALESTINIAN CONFLICT

We first tested the backfire effect in several field experiments (Ginges et al., 2007) using samples of Palestinian refugees, Israeli settlers, and Palestinian students who strongly identified with Hamas. These experiments distinguished themselves from previous laboratory-based studies by examining issues centrally important to the lives of participants who are central players in a violent political dispute. Participants responded to a deal involving compromise over a core issue: ceding land in the case of Israeli settlers; sovereignty over Jerusalem in the case of Palestinian students; the "right of return" for Palestinian refugees; and recognition of the legitimacy of the adversaries' national aspirations for all samples. No participant supported compromising over these issues but some additionally said the issues concerned were sacred values. That is, they said that they could not consider compromising a relevant issue irrespective of the benefits to their people.

To test the backfire effect we used a between-subjects design, randomly allocating individual participants into one of two conditions: *taboo* or *taboo+*. In the *taboo* condition, participants responded to a deal compromising one important value (such as sovereignty over Jerusalem) in exchange for a peace deal entailing a two state solution to the Israeli–Palestinian dispute. Participants in the *taboo+* condition responded to this same deal with an added material incentive. These incentives varied. Sometimes they were monetary amounts that would go to individual families and sometimes they went to the entire nation. We also varied whether the adversary or a third party supplied the incentive. In one case we used a nonmonetary material incentive, promising a life free of political violence. Regardless of the incentives, the same pattern always emerged. For participants who had a

strong preference for the issue concerned, added material incentives produced instrumentally rational behavior resulting in less support for violent opposition to the deal, and less anger or disgust. However when the deal implicated a sacred value the backfire effect was found: materially better deals led to less flexibility in the form of more anger or disgust and greater support for violent opposition to the deal.

3. SEQUENTIAL OFFERS IN NEGOTIATIONS OVER SACRED VALUES

In a negotiation, people typically exchange sequential offers. To exchange Y, people may first be offered X and if X is rejected, they may be offered $X + 1$. Our previous work, which randomly assigned people to respond to deals that threatened their sacred values or to the same deals with added instrumental incentives, suggests that the $X + 1$ offer in a sequential negotiation that implicates a sacred value may backfire. These initial studies supported our contention that sacred values are not pseudosacred but instead were characterized by a real repugnance to the idea of measuring commitments to sacred values along an instrumental metric. However, the participants in the aforementioned studies were in a disadvantage in that they had no deal (save perhaps an ideal offer) with which they could compare the *taboo* and *taboo+* deals. Thus the external validity of previous work using a between-subjects design to many real world contexts, such as negotiations, may be questionable.

In general, while people may behave irrationally in studies using a between-subjects design they often recognize such irrationality in more transparent tests that use a within-subjects design. For example, people value future events more than equivalent past events when between-subjects designs are used but value both equally under a within-subjects design (Caruso et al., 2008). In a particularly relevant study, Bartels (2008) asked participants to rate their approval of actors in hypothetical scenarios who either acted, or refused to act, in accordance with cost-benefit calculations in choices between sacred or protected values, such as sacrificing the lives of a few children to save many. When judging choices separately, participants were more approving of refusals to act. However when judging choices jointly, participants were more approving of a person who acted in response to cost-benefit calculations.

One cause of preference changes in within- versus between-subjects design is ease of evaluation (Hsee et al., 1999). Attributes that are easy to evaluate have an advantage in influencing choices when options are evaluated independently in a single isolated offer, an advantage that disappears when two offers can be compared (Bazerman et al., 1992; Hsee, 1996; Hsee

et al., 1999). For example people prefer Dictionary A (which has 10,000 entries and has no defects) to Dictionary B (which has 20,000 entries but has a torn cover) when they are evaluated separately, but Dictionary B over Dictionary A when evaluated jointly (Hsee, 1996).

It is possible that the relative ease of evaluating moral versus instrumental aspects of deals involving sacred values in a between-subjects design may have resulted in an overestimation of the negative impact of instrumental offers in negotiations over sacred values. People can evaluate offers that implicate sacred values from both moral ("is this right or wrong?") and instrumental ("is this likely to bring pleasure or pain?") perspectives. It seems more difficult to evaluate the instrumental aspect of a single isolated offer than it is to evaluate the moral aspect of the offer (violating the taboo against measuring commitments to sacred values). The moral violation is obvious and even more salient in the *taboo+* condition. In contrast, the absence of a meaningful comparison offer renders the evaluation of the instrumental benefits more difficult.

3.1. Using a Within-Subjects Design for a Transparent Test of the Backfire Effect

To test this alternative account, we conducted a study using a within-subjects design where participants were first presented with a deal involving a compromise over one of their sacred values for some material benefit (*taboo* deal) and were then presented with the same deal with an added material benefit (*taboo+* deal). This design allows a clear test of opposing hypotheses. If the relative difficulty of evaluating the material aspect of an offer explains our previous result, people would demonstrate less opposition to *taboo+* than to *taboo* deals under a within-subjects design. In contrast if decisions over sacred values are noninstrumental, *taboo+* deals would again backfire.

4. RETESTING THE BACKFIRE EFFECT IN A STUDY OF INDONESIAN MADRASSAH STUDENTS

In addition to using a different design, this study also examined reasoning over sacred values in a different cultural, linguistic, and political setting. Our previous work had taken place in the West Bank and Gaza, a small but geopolitically important area. The study we describe here took place in Indonesia during 2006 and involved willingness to compromise over the sacred value of sharia or strict Islamic law.

We interviewed 102 students attending four different madrassahs or Muslim boarding schools: Darussalam, Al-Husainy, Ibnu Mas'ud, and

Al-Islam. All schools were associated with Islamic political movements. Darussalam (located in Depok, West Java) and Al-Husainy (Tangerang, West Java), are associated with the Nahdlatul Ulama (NU), or "Revival of Islamic Scholars". Ibnu Mas'ud (Lombok), is funded by the Majelis Mujahidin Indonesia (MMI), or "Council of Indonesian Holy Warriors," an Islamist coalition whose goal is to convert Indonesia into a strict Sunni state ruled by sharia law. The fourth school, Al-Islam (in Tengulun, East Java), was established in 1992 by the father of three of the main Bali bombing plotters (Ali Imron, Amrozi, Mukhlas) and modeled on the famous al-Mukmin school in Ngruki (Solo, Central Java) created by Jemmah Islamiyah founder Abdullah Sungkar and his colleague Abu Bakr Ba'asyir.

The participants in our studies had grown up during a time of increased group-based political violence. Between 1990 and 2003 Indonesia experienced significant amounts of group-based violence taking many forms. According to a report by Varshney et al. (2006), ethnocommunal violence has accounted for only 17 % of group-based violence during the period but has been particularly severe, causing 9612 out of 10,758 fatalities during the 13 year period. Group-based violence appears particularly common in Java, which witnessed severe periods of violence directed against ethnic Chinese (Sidel, 2006).

4.1. The Participants: Demographic Characteristics

Age and gender. The median age of participants was 17, with 94% aged between 15 and 21. Most of the sample (74%) was male, but the distribution of gender differed significantly by school (Chi-square = 28.36, $p < .001$). Male students constituted more than 90% of participants in Al-Islam and Ibnu Mas'ud, 50% in Darussalam, and 56% in Al-Husainy participants.

Socioeconomic status. We asked participants whether they considered their family to be "poor," "middle or average compared to the rest of the population," or "rich or wealthy compared to the rest of the population." No participant self-classified as wealthy, but the distribution of poor and middle class students differed according to school (Chi square = 53.3, $p < .001$). Ibnu Mas'ud had the highest proportion of poor students (92%), followed by Al-Islam (43%) and Al-Hussainy (33%). All students at Darussalam classified themselves as being middle-class.

Recruitment. We asked participants how they came to be at the school — because of contacts through "kin or family", "friends", or the "school". In three schools, kin/family was the dominant cause of recruitment (Ibnu Mas'ud, 77% through kin/family; Darussalam, 59%; Al Husainy, 78%).

Only 5% of students in Al-Islam came to be there through kin/family contacts as the school recruited the remainder directly or through peer networks.

4.2. The Participants: Moral Worldview

We asked several questions that related to moral beliefs about intergroup violence, finding that the beliefs of students at Al-Islam were unusual. In particular, students at Al-Islam seemed to believe less in the power of context to shape morality and that people deserved to be killed because of evil beliefs. For example, we asked "How can you be sure that some people deserve to be killed: due to things they have done, due to their beliefs and religion, or for other reasons?" Sixty-seven % of participants at Al-Islam said that people deserved to be killed because of their beliefs and religion and 33.3% because of things they have done. In contrast, across the other schools 13% said that people deserved to be killed because of their beliefs and religion and 87% because of things they have done (Chi-square = 48.1, $p < .001$). We also asked: "Do you think people are born good and learn to become evil, while others are born evil and learn to become good, or do you think people learn to be good or evil?" At Al-Islam, 90.5% of participants believed that people are born either good or evil, with the majority (67%) believing they were born evil and only 9.5% believing that people learn to be good or evil from a neutral state. In contrast, at the other schools the most common answer (45.5%) was that people learn to be good or evil, the next common response being that people are born good (32.5%) while only 12% believed people are born evil (Chi-square = 29.5, $p < .001$).

Sharia as a sacred value: To measure whether sharia was a sacred value we asked: "Do you agree that there are some extreme circumstances where, in return for some great benefit to the people of your country, it would be permissible to accept that sharia would NOT be the law of the land?" Participants could answer "yes", "don't know/unsure" or "no," with the last response indicating sharia was a sacred value. Across all schools, 75% of participants answered "no." At Al-Islam, the belief that sharia was a sacred value was near universal with 91.5% of participants (19 out of 21) indicating that their commitment to sharia was a sacred value. In contrast, beliefs about sharia were more heterogeneous in other schools, with 68% of participants (51 out of 75) believing that it was a sacred value.

We should note that those who did not believe sharia to be a sacred value still exhibited a strong preference that Indonesia be ruled by sharia. We asked: "How important is it that a good government should implement

sharia? Is it very important, important, not very important or not important at all?" All participants regarded it as either important or very important.

4.3. The Deals

We asked all participants to respond to two slightly different types of deals. Under the first deal (*taboo*), participants were told that the United States and the European Union would agree to recognize the right of the Moslem Brotherhood to lead the government of Indonesia if elected in a free and fair manner as long as there was agreement that Indonesia would not "be ruled strictly according to sharia."

After responding to this deal, participants were asked to respond to the second deal (*taboo+*) which was identical to the first except for the added material incentive: "In return the United States and the European Union would give Indonesia a privileged trade agreement, resulting in substantial economic benefits to our people."

To measure opposition to each deal, participants were asked: "Do you agree or disagree with a bombing campaign (involving what some call martyrdom attacks) to oppose this agreement?" Responses were coded from 1 to 4, where lower scores indicate greater support for violent opposition to the deal.

4.4. Results

We analyzed support for suicide attacks against deals in a 2 (madrassah: Al Isalm vs. other schools) X 2 (deal type: *taboo* vs. *taboo+*) ANOVA, with repeated measures on deal type. Support for violence was greater in response to the deal with the added instrumental incentive F (1, 76) = 19.35, $p < .001$. Thus we replicated the prior backfire effect, this time using a within-subjects design where participants were able to directly compare the *taboo* and *taboo+* deals, and so could easily evaluate the instrumental value of the *taboo+* deal.

Interestingly the backfire effect was greater for al Al-Islam sample F (1, 76) = 4.13, $p = .046$ (see Figure 1), which was more strongly radicalized than the other samples; students at Al-Islam supported violent opposition more than those at the other schools, $F(1, 76) = 7.43$, $p = .008$. For students at Al-Islam, mean support for violence in response to the *taboo+* deal was 1.32 (SD = .48), while mean support for violence in response to the *taboo* deal was 2.05 (SD = .32), $t(18) = 5.72$, $p < .001$, $d = 1.94$. For students at other schools, mean support for violence in response to the *taboo+* deal was 2.08 (SD = .92), while mean support for violence in response to the taboo deal was 2.36 (SD = 1.02), $t(58) = 2.21$, $p = .031$, $d = .29$.
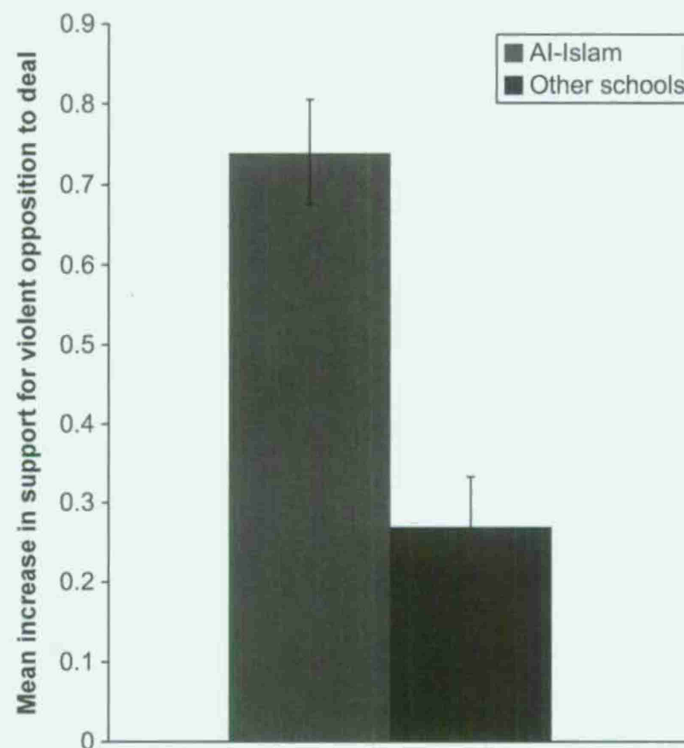
Figure 1 Support for violent opposition to deals involving compromise over sharia increased when offered an additional material incentive to compromise. This effect was strongest for more radicalized students attending Al-Islam.

5. GENERAL DISCUSSION

In this chapter we have argued that when someone claims that an action, issue, or resource is a sacred value, they are not claiming that the action, issue, or resource has infinite utility. Rather, they are asserting that this is a thing that cannot be valued along an instrumental metric. This definition allows us to predict some of the conditions under which people are likely to be flexible about their commitments to sacred values as well as when they are likely to be rigid about those commitments, as is the case when ordinary people are willing to undergo extreme sacrifice in defense of a sacred value. Seen this way, sacred values are not "pseudosacred" social commitments vulnerable to instrumental realities. Instead, they can be real commitments to not compromise moral commitments for materially beneficial outcomes.

One nonobvious prediction that follows from this definition is the "back-fire effect" of material incentives to compromise over sacred values. If the central taboo surrounding sacred values is the prohibition against sacred-secular trade-offs (*taboo* trade-offs), greater incentives should arouse greater opposition as they make the taboo behavior more salient. In previous work with Israelis and Palestinians we have used between-subjects experimental

designs to show that participants who responded to deals with greater material incentives to trade-off sacred values (*taboo+ deals*) responded with greater outrage (Ginges et al., 2007). In this chapter we described a new study carried out with Indonesian madrassah students that replicated these findings using a within-subjects design that made the instrumental advantages of the *taboo+* deals transparent.

Aside from demonstrating the robustness of the backfire effect, three other features of this study seem particularly noteworthy. The first is that the effect was found in a different cultural and political context. This indicates that our previous results in the Israeli–Palestinian context (Ginges et al., 2007) were not simply a function of some specific way Israelis and Palestinians talk and think about issues in this conflict. Second, we found it interesting that the backfire effect was strongest for those attending Al-Islam, who were the most radicalized students. This indicates that noninstrumental responses to instrumental incentives to compromise sacred values may be greatest in contexts where compromise is most needed. This work also demonstrates the importance of studying sacred values in the field as well as in the laboratory. The research sites we chose allowed us to ask questions about values that were central to the lives of our participants. Moreover, we were able to ask questions about violent responses to compromise over sacred values in a context where participants were tragically familiar with the reality of such violence. Thus while our experiment involved hypothetical reactions to hypothetical situations (as in many laboratory studies) these reactions and situations were realistic and important to our participants (unlike many laboratory studies).

Expectations that people in political or intergroup conflicts will compromise sacred values in exchange for much needed material improvements are likely to be unfounded. Many of these conflicts involve profound material suffering, and the reduction of this suffering is essential to long-term conflict resolution. However, the findings we have discussed here demonstrate that reasoning over sacred values differs from reasoning about purely economic goods and that attempts to resolve disputes over sacred values need to take this into account. When people transform issues, resources, or practices into sacred values, attempts to resolve disputes by focusing on increasing the costs or benefits of different actions can backfire.

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Perspectives on Terrorism -

Who Becomes a Terrorist Today?

By Scott Atran

Introduction: Takfiri Terrorism

Since the invasion of Iraq, and with the rapid spread of Internet access, the world has witnessed a more egalitarian, less-educated and -materially well off, and more socially marginalized wave of would-be jihadi martyrs. Although millions of people support violent jihad, very few are willing to do it. Those who do pursue violent jihad usually emerge in small groups of action-oriented friends. They come from the same neighborhood and interact during activities, such as soccer or paintball. Often they become camping and hiking companions who learn to take care of one another under trying

conditions, which causes them to become even more deeply attached. Increasingly, they may first meet in a chat room where the anonymity of the World Wide Web paradoxically helps to forge intimate emotional ties among people who might otherwise physically intimidate or put off one another. They learn to live in a parallel universe — a conceptually closed community of comrades bound to a cause — which they mistake for the world.

These young people self-mobilize to the tune of a simple, superficial, yet broadly appealing "*takfiri*" message of withdrawal from impure mainstream society and the need for violent action to cleanse it. It is a surprisingly flat but fluid message pre-adapted to any new event in the world, which is readily shared by young people I have interviewed from the remote Indonesian Island of Sulawesi, to the Spanish enclave of Ceuta (Septa) in North Africa, and in places scattered throughout Pakistan, Palestine, and the suburbs of Paris.

Takfiris (from *takfir*, "excommunication") are rejectionists who disdain other forms of Islam, including *wahabism* (an evangelical creed which preaches Calvinist-like obedience to the state) and most fundamentalist, or *salafi*, creeds (which oppose fighting between co-religionists as sowing discord, or *fitna*, in the Muslim community). Salafi Islam is the host on which this viral Takfiri movement rides, much as Christian fundamentalism is the host upon which White Supremacism rides. The host itself is not the cause of the virus and is, indeed, a primary victim. As one senior Saudi intelligence officer recently told me, "Often the first sign of someone becoming a Takfiri is that he stops praying where his family and tribe pray. He leaves the mosque and turns against his family, tribe and our Salafi way."

One telltale sign of radicalization in the move to Takfirism is when members of a neighborhood mosque or cultural center (or just an informal discussion group that meets at a bookstore or at picnics) gel into a militant faction that leaves, voluntarily or involuntarily. This is what happened, for example, when Ali al-Timimi and his group of paintball buddies were ejected from the Dar al-Arqam Cultural Center in Falls Church, Virginia, after praising the 9/11 attack (12 members of the group were later convicted for aiding Lashkar-e-Taiba, a Pakistani group allied to al-Qaeda). Another example is when the soccer-playing Salafi Imam at the M-30 mosque in Madrid expelled Serhane Fakhet and friends (who continued to self-radicalize, playing soccer and picnicking together, in the lead up to the Madrid

train bombings).

Western politicians, pundits, and publics generally do not understand that the strict Salafi schools in Indonesia, Egypt, Saudi Arabia, Yemen and elsewhere are the most vociferous and effective opponents of violent jihad. Most present-day Takfiris are "born again" in their late teens and early twenties and have little knowledge of religion beyond the fact that they consider themselves "true Muslims" who must fight enemies near and far to defend their friends and the faith that makes their friendship meaningful and enduring.

Soccer, paintball, camping, hiking, rafting, body building, martial arts training and other forms of physically stimulating and intimate group action create a bunch of buddies (usually not less than 4 and not more than 12, with a median of 8), who become a "band of brothers" in a glorious cause. It usually suffices that a few (usually at least two) of these action buddies come to believe in the cause, truly and uncompromisingly, for the rest to follow even unto death. Humans, like all primates, need to socially organize, lead and be led; however, notions of "charismatic leaders" going out or sending recruiters to "brainwash" unwitting minds into joining well-structured organizations with command and control is grossly exaggerated. Standard counterterrorism notions of "cells" and "recruitment" – and to some degree even "leadership" – often reflect more the psychology and organization of people analyzing terrorist groups than terrorist groups themselves.

Such "bureaucratic mirroring" is also evident in misguided policies grounded in the premise that simply presenting people with rational arguments and material incentives will lead them down the correct or better path. Most human beings are more interested in persuading themselves that they are right, whatever the evidence against them, than in finding out that they are wrong. They are more interested in victory than truth. And when was the last time rational argument or a buy-off offer convinced anyone you know to select the right (boy or girl) friend?

Problems with Prevailing Theories of Terrorism: Outdated Data and Inattention to Detail

Alan Krueger, in his new book *What Makes a Terrorist: Economics and the Roots of Terrorism* (Princeton University Press, 2007), produces data for three general findings: (1) poverty and lack of education are uncorrelated, or slightly negatively correlated, with being a terrorist or support for terrorism; (2) most terrorists stem from countries that are not

poor, but that restrict civil liberties; and (3) terrorism is mostly directed against democratic rather than authoritarian regimes. He then infers causes from these broad correlations: (A) poverty and poor education do not produce terrorism, but denial of political freedom does; and (B) terrorists target democratic regimes because terrorists seek publicity and widespread panic and democracies are more responsive to public opinion. These conclusions echo Robert Pape's best-selling book *Dying to Win*: *The Strategic Logic of Suicide Terrorism* (University of Chicago Press, 2005).

A major problem with such works is that they assume correlations with economic status, education level, or degree of civil liberties usefully predict who or how people become terrorists. This mistaken premise misleads policymakers and researchers. It is the *social networks* and *group dynamics* of these networks that are critical to understanding how terrorist networks form and operate, not the demographic profiles of individuals and whole populations.

Consider Islamic terrorism, the main focus of Krueger's book. The significant correlation between the countries of origin of Islamic terrorists and countries that limit civil liberties is true, but uninformative. The same correlation holds for indefinitely many Muslim groups that have nothing to do with terrorism.

Only al-Qaeda is interested in attacking the "far enemy," that is, the United States and its allies. Isaac Ben Israel, an Israeli parliamentarian who currently heads his country's space agency, was former chief of air force operations and top military strategist in a successful campaign to stop Hamas suicide bombings. He told me that "al-Qaeda is a very different problem and is not ours; our operational problems with Hezbollah and Hamas involve regional networks with regional aims, although we are ready to help the United States with its global al-Qaeda problem whenever we can." More than 80 percent of people who have joined or expressed allegiance to al-Qaeda have done so outside their country of origin. This, of course, is not the case with Hezbollah or Hamas. Whether one joins jihad in the diaspora or in one's native country, and not country of origin *per se*, is the key factor in how one is willing to use terrorism and against whom.

The correlation between terrorist acts and target countries, indicating that democracies are victims more than autocracies, is spurious. It requires accepting that attacks on U.S occupation forces in Iraq and Afghanistan are attacks upon U.S. democracy. In fact, there have been very few attacks carried out directly

against western democracies, and only three with significant casualties (USA-11 September 2001, Spain-11 March 2004, UK-7 July 2005). There have been no major attacks against the democracies of Israel or Indonesia in the last two years, and only one major attack in India outside the disputed territory of Jammu-Kashmir (11/07/06 in Mumbai). There have been 2400 arrests related to Takfiri terrorist activities in Europe, where civil liberties are guaranteed.

Only in Iraq and Afghanistan has there been a continuing high rate of attacks against US-led coalition forces, which are increasingly perceived as occupation forces by large segments of the populations of these two countries. It is doubtful that reaction would be much different if invasion and occupation forces were those of a dictatorship, as with Soviet forces in Afghanistan in the 1980s. The world's newest and most active areas for suicide attacks are Pakistan and North Africa, where civil liberties are restricted. Over 200 people were killed in North Africa in 2007, mostly in Algeria. In Pakistan, nearly 500 were killed in suicide attacks in the second half of 2007 (including former Prime Minister Benazir Bhutto), greater than the number of people killed in terrorist attacks in Europe over the last two decades. Local groups proclaiming allegiance or sympathy with al-Qaeda have claimed responsibility, but al-Qaeda does not appear to have direct operational command or control over any of these groups.

Consider, now, the relationship between socioeconomic status and terrorism. To independently confirm Krueger's findings on Hamas my research group statistically regressed Palestinian support for suicide attacks against Israelis on education and income levels in three nationally representative surveys of Palestinians (West Bank and Gaza) from 1999, 2001 and 2005. We controlled for area of residence, refugee status, age, gender and religion. Income and education levels were unrelated to support for suicide attacks. When there was a relationship between support for suicide attacks and economic variables we found, like Krueger, that income and education levels are modestly, but *positively* correlated with support. In the 1999 survey, wealthier Palestinians expressed greater support for attacks, while more educated Palestinians showed greater support for suicide attacks in the 2001 surveys.

But when we turn to al-Qaeda's most important Southeast Asian ally *Jemaah Islamiyah* (JI), we find something different. We analyzed every attack by Southeast Asia's JI between 1999 and the second Bali bombing of 2005 (apart from the purely

local conflicts of Poso and Ambon) and entered demographic details on all known operatives. Of about 180 people implicated in JI attacks, 78 percent worked in unskilled jobs, and only 23 percent had education beyond high school.

We also found that operational associations in JI are determined by four variables: (1) being a member of the self-styled "Afghan Alumni," that is, someone who went through training with the Indonesia volunteers in the Abu Sayyaf's Sadah training camp during the Soviet-Afghan War and its immediate aftermath; (2) continuing to work together (e.g., on Abdullah Sungkar's chicken farm in Malaysia) or to play soccer together after demobilization from Afghanistan (and before JI was officially established); (3) having studied or taught in at least one of the two religious schools established by JI's founders (Al-Mukmin in Java and Lukman Al-Hakiem in Malaysia); and (4) being related by kinship or marriage to someone else in the network (e.g., there are more than 30 marriages woven through 10 attacks). In contrast with these factors, we find that the knowledge of JI's "official" organizational structure is largely uninformative in helping us to understand the networks involved in JI attacks.

Levels of education and skill are significantly higher for Hamas than for JI. Nevertheless, the main predictors for involvement in suicide attacks are, again, small-world aspects of social networks and local group dynamics rather than large-scale social, economic, and political indicators, such as education level and economic status. For example, Hamas' most-sustained suicide bombing campaign in 2003-2004 involved several buddies from Hebron's *Masjad* (mosque) *al-Jihad* soccer team. Most lived in the Wad Abu Katila neighborhood and belonged to the al-Qawasmeh hamula (clan); several were classmates in the neighborhood's local branch of the Palestinian Polytechnic College. Their ages ranged from 18 to 22 years old. At least eight team members were dispatched to suicide shooting and bombing operations by the Hamas military leader in Hebron, Abdullah al-Qawasmeh (killed by Israeli forces in June 2003 and succeeded by his relatives Basel al-Qawasmeh, killed in September 2003, and Imad al-Qawasmeh, captured on October 13, 2004). A closer look at actual attacks reveals that almost all are rooted in local networks of pre-existing social relationships.

In February 2008, I interviewed members of the families of suicide bombers Mohammed Herbawi and Shadi Zghayer, shortly after an attack in Dimona, Israel. This was the first suicide attack claimed by Hamas since December 2004, when

Hamas declared a unilateral truce on martyrdom actions across the Green Line. These two friends were members of the same Hamas neighborhood soccer group as several others who died in 2003: the Masjad al-Jihad team. Herbawi had been arrested as a 17-year-old on March 15, 2003, shortly after a suicide bombing on Haifa bus (by Mamoud al-Qawasmeh on March 5, 2003) and coordinated suicide shooting attacks on Israeli settlements by others on the team (March 7, 2003, Muhsein, Hazem al-Qawasmeh, Fadi Fahuri, Sufian Hariz) and before another set of suicide bombings by team members in Hebron and Jerusalem on May 17-18, 2003 (Fuad al-Qawasmeh, Basem Takruri, Mujahed al-Ja'abri). Herbawi's mother, Basma Harmoni (she is divorced), said her son loved all those boys.

The Imam at Masjad al-Jihad, Fellah Naser Ed-Din, is also crazy about soccer (he showed me albums of his soccer team pictures since his boyhood days) and refereed the boys. The Imam told us that the soccer buddies self-organized matches involving 15 mosque teams in the area, naming the matches after martyrs (a painted sign behind the goalpost at the Abu al-Dhabat school reads "Championship by Martyr Ra'ed Missak," in honor of the young man from Hebron who killed 23 people and wounded more than 130 on a Jerusalem bus on August 19, 2003). According to the Imam, Muhsein Qawasmeh was the smartest and best of the 2003 team and he inspired the others. I received much the same message from Fawzi Qawasmeh, father of one of the young men, who went on the mission with Muhsein. Hazem Qawasmeh, who went on the mission with Muhsein, stated that "without Muhsein, I doubt the other would have would have acted." At the house where Muhsein's family now lives, I found his mother and brother commiserating with Herbawi's uncle. Muhsein's mother said her son had been an exemplary student but left school after the Intifada broke out and focused on soccer and religion.

The Hamas leadership in Damascus later claimed responsibility for the Dimona attack (after Fatah's Al-Aqsa' Martyrs Brigades had claimed it) but the politburo clearly did not order it or even know about it (Usama Hamdan, who handles external relations for Hamas in Beirut, initially said he didn't know who was responsible; and when I asked senior Hamas leaders in the West Bank if this meant that he didn't know about it they said, "You can conclude that; we certainly didn't"). Sources close to Israeli intelligence told me at the Knesset that Mahmoud Zahar, the Hamas leader in Gaza, and Ahmed Al Ja'abri, the military commander of the Izz ad-Din al-Qassam Brigades, probably wanted to launch an operation across the Israel-Egypt border

after Hamas breached the border wall between Gaza and Egypt but couldn't, so al-Ja'abri called upon his clan ally in Hebron, Ayoub Qawasmeh, to do an operation. Ayoub Qawasmeh then tapped into the young men on the soccer team who had been earnestly waiting to do something for their comrades and their cause.

The most complete data in Krueger's book concerns Hezbollah and Hamas. There is a secondary focus on al-Qaeda. For all three cases, the data is old and of questionable relevance to global terrorism today. Hezbollah ceased suicide bombings and attacks on civilians (outside of open war) by the 1990s. Hamas has claimed responsibility for only one attack since December 2004. al-Qaeda central, the command set up by Osama Bin Laden in the summer of 1988 and which was involved in the 9/11 attacks, has had no direct success in carrying out a terrorist operation since 2002 (the Djerba, Tunisia bombings), though it had a hand in prior financing of operations carried out later (Istanbul bombings 2003) and in training people implicated in subsequent attacks (about 50 suicide bombers involved in attacks in Saudi Arabia through April 2005).

The original al-Qaeda group around Bin Laden (mostly Egyptians) has been decimated by about an order of magnitude. Al-Qaeda's surviving remnants are mostly concentrated in a handful of small mobile camps in Pakistan's Federally Administered Tribal Areas. The largest remaining al-Qaeda camp in 2007, *Mir Ali* in North Waziristan, has had a few dozen trainees under the tutelage of Abu Ubaydah Al-Masri. Al-Masri instructed those responsible for the summer 2006 suicide bombing plot to smuggle liquid explosives aboard a number of passenger jets, and he has likely been involved in a few other dangerous but so-far unsuccessful plots.

For the most part, the "new wave" of terrorism that expresses allegiance to al-Qaeda tends to be poorer, less educated and more marginal than the old al-Qaeda or its remnants. It relies to a greater extent for financing and personnel on pre-existing petty criminal networks because large-scale financing is easily tracked (the attacks on Sept. 11 cost some $400,000 followed by the 2002 Bali and 2004 bombings at about $50,000 each, with all others considerably less). The Saudi Ministry of Interior conducted a study of 639 detainees through 2004 and is presently finishing a newer study through 2007. Nearly two-thirds of those in the sample say they joined Jihad through friends and about a quarter through family. A closer look at other terrorist groups reveals strikingly similar patterns of self-

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radicalization based on almost chance encounters within pre-existing local circles of friends and kin. Former CIA case officer Marc Sageman analyzed Qaeda networks through 2003 and found that about 70 percent join through friends and 20 percent through kin. In his new book *Leaderless Jihad: Terror Networks in the 21st Century* (University of Pennsylvania Press, 2007) Sageman finds that more recent networks are also built up around friendship and kinship but members are more marginal relative to surrounding society.

The newer Saudi sample bears this out. Compared with the earlier sample, the newer wave tends to be somewhat younger (and more likely to be single), less educated and less financially well off, less ideological, and more prone to prior involvement in criminal activities unrelated to Jihad, such as drugs, theft, and aggravated assault. They are much more likely to read jihadi literature in their daily lives than other forms of literature. They tend to look up to role models who stress violence in Jihad, like the late Abu Musab al-Zarqawi, than to those who justify and limit violence through moral reasoning, such as the late Abdullah Azzam. A majority come to religion later in life, especially in their early twenties. In the older cohort there was little traditional religious education; however, the newer cohort tends to be less ideologically sophisticated and especially motivated by desire to avenge perceived injustices in Iraq. (When I asked detainees in Saudi Arabia who had volunteered for Iraq why they had, some mentioned stories of women raped, the killing of innocents and desecrations of the Koran, but all mentioned Abu Ghraib).

This "new wave" pattern of increasingly marginality and "born-again" religion is reflected in European and North African groups that express allegiance to al-Qaeda, as well as foreign fighters in Iraq (41 percent from Saudi Arabia and 39 percent from North Africa since August 2006, many of whom come in bunches from the same town, for example, the 50 or so volunteers from Darnah, Lybia, according to West Point's *Sinjar Report on Foreign Fighters in Iraq*).

Krueger and others repeatedly refer to predictive factors in "recruitment." It is important to understand that there is no, and has never been, clear evidence of "recruitment" into al-Qaeda. In its heyday, al-Qaeda operated more like a funding agency than a military organization. People would come to al-Qaeda with proposals for plots. Al-Qaeda would accept some 10-20 percent. Even the 9/11 suicide pilots were not "recruited" into Al-Qaeda. They were Middle Eastern Arabs who lived in a

international internet iraq islamic islamist members military muslim online operations political professor qaeda religious research security social state states studies support terrorism terrorist terrorists time tribal tribes violence western world

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middle-class Germany community (the Hamburg suburb of Harburg) and were seeking friendship and identity in an Islamic community that was mostly Moroccan. Our interviews with friends in their circle and investigators reveal that the plotters met in the dorms and started hanging out together, including going to mosque services and meeting in local restaurants. Three wound up living in the same apartment, where they self-radicalized. They first thought of going to Chechnya to do jihad (but getting there proved too difficult) then to Kosovo (but the Albanian jihadis didn't want them), and eventually wound up in an al-Qaeda training camp in Afghanistan as a distant third choice.

There is no clear evidence that al-Qaeda ever had a recruiting or training infrastructure in Europe, although there is increasing evidence that al-Qaeda and al-Qaeda-related groups in Pakistan's tribal areas maintain communication with Europeans after the train in Pakistan. This seems to be especially the case with those involved in recent plots in the United Kingdom. Generally, however, people go looking for al-Qaeda, not the other way around. Because there is very little of the old al-Qaeda left, many who go seeking al-Qaeda are caught. Those who seek out al-Qaeda do so in small groups of friends, and occasionally through kin. Almost all are schoolmates or workmates, and camp, soccer, or paintball buddies. Only a minority has gone beyond high school. Some have steady jobs and family, but many have only intermittent jobs and no families of their own. All have self-radicalized to some degree as friends before they go after al-Qaeda, although an encounter with someone who has been to an al-Qaeda training in camp in Afghanistan is occasionally an added stimulant. The overwhelming majority have not had sustained prior religious education but become "born again" into radical Islam in their late teens and early 20s. About 10 percent are Christian converts.

For example, in the wake of the Iraq invasion in April 2003, a disciple of the radical Islamist preacher Sheikh Omar Bakri organized a barbecue in a London suburb for about 100 people, most from the immigrant Pakistani community. Guests were asked for donations to help send a few volunteers to Pakistan to train for Jihad. Among those who used some of 3,500 euros collected to pay their way to Pakistan were Mohammed Sidique Kahn, one of the four suicide bombers in the July 2005 London Underground attack, and Omar Khyam, one of the conspirators convicted in the 2005 "Crevice" plot to plant fertilizer bombs around London. Their original intention was to do Jihad in

Kashmir, but after a quick course in bomb-making they were told to "go home" and do something there. Each joined up with a few friends to concoct a plot. Interviews by journalist Jason Burke with investigators and friends familiar with the Crevice case suggest that 10 days of arduous hiking, camping, and training in Pakistan cemented commitment between buddies who learned to live together and care for one another. White-water rafting seems to have played a similar role in bonding the London Underground plotters. One of the four London suicide bombers was also a Jamaican Christian convert and pinball buddy.

Another telling example is the Madrid train bombing in March 2004. Five of the seven plotters who blew themselves when cornered by police grew up within a few blocks of one another in the tumble-down neighborhood of Jemaa Mezuak in Tetuan, Morocco: Jamal Ahmidan ("El Chino"), brothers Mohammed and Rachid Oulad Akcha, Abdennabi Kounjaa ("El Afghan"), and Rifaat Asrin ("El Niño). One, nicknamed the "Chinaman," fled Morocco in 1993 from a murder charge, joining his elder brother in Madrid in taking and dealing drugs. In 1995, with his teenage Christian girlfriend and fellow junkie five months pregnant, the Chinaman decided to kick his heroin habit. His wife says he did it cold turkey with the help of the religion he was getting in a local mosque. The Chinaman turned around to preach reform to his drug-dealing associates, three brothers from the Mezuak, convincing two to quit their habit. The brothers became devoted to the Chinaman, and thereafter known in the barrio as his "bodyguards."

The fourth of Madrid's Moroccan suicide bombers was described to us by some of his friends as Mezuak's first "Afghan" (a religious militant who grows a full beard and dresses with an Afghan hat, coarse knee-length tunic and sandals). He would preach jihad against "infidels" (*kuffar*) and Muslims who merit "excommunication" (*takfir*) because they refuse to follow "pure" Islamic ways. The father and friends of the fifth suicide bomber, a young gay man in his early 20s known as "The Kid," said that he had sold candies from a cart in Mezuak until 2000. He did not care much for religion until he was hooked up with The Afghan. By 2002, The Afghan and The Kid were in Madrid, the former as a part-time construction worker who dealt drugs with the Chinaman's "bodyguards," and the latter devoting himself to charity work helping out other young immigrants.

In the fall of 2003, just after the Chinaman returned from a

prison stint in Morocco, he and his chums from the "old neighborhood" of Mezuak linked up with the economics-turned-religious student Serhane Fakhet and his buddies at a couple of apartment-mosques and soccer fields, and in daily dealings along Tribulete Street (at the *halal* butcher shop, the *Alhambra* restaurant, the barbershop, and the cell phone and Internet store) in the Lavapies neighborhood of central Madrid. The hands-on drug dealer and dreamy student bonded in an explosive combination. There was no al-Qaeda, or any other outside organization, involved.

From March to December 2007, I went to the Mezuak, and found that at least a dozen other young men had "gone Afghan" since the summer of 2006, according to local residents who knew them. Each would one day suddenly shave his beard, don western clothes and simply disappear; sometimes two vanished on the same day. Their friends and local Moroccan police say that they probably left for Iraq to become martyrs. The names and itineraries of 5 of them have been confirmed: Abdelmonim al-Amrani, Younes Achebak, Hamza Aklifa, and the brothers Bilal and Muncef Ben Aboud (DNA analysis has confirmed the suicide bombing death of Amrani in Baqubah, Iraq). All 5 attended a local elementary school (Abdelkrim Khattabi), the same one that Madrid's Moroccan bombers attended. And 4 of the 5 were in the same high school class (Kadi Ayadi, just outside Mezuak). The fifth, Bilal's brother Muncef, was a gifted mathematics student who went on to receive a scholarship to Morocco's prestigious air force academy, the *École Royale de l'Air*. But Muncef's mother said he was unsettled by what was happening around the world to Muslims and left his studies as he sought solace in religion.

All were soccer buddies who prayed at *Masjad al-Rohban* (the *Dawa Tabligh* mosque where Kounjaa had first gone "Afghan") and all hung out at the Chicago Café on Mamoun Street, Mezuak's main drag. The cousin of one of the Iraq-bound group (Hamza) was married to The Afghan, and all prayed in the same mosque where The Afghan first preached Jihad (the mosque's Imam was arrested in 2006 for collecting *zaqat* charity money from local business men to help send young men to Iraq). Friends say the young men bound for Iraq all respected the courage of the Madrid plotters but disagreed about their civilian targets and believed that action in Iraq would be more just and "soldierly" than in Europe. Like the Madrid plotters (as well as the Hamburg and London plotters), they were buddies, hung out together at local cafés and restaurants, and mingled in the same barbershops (where young men gather and talk).

The boundaries of the newer-wave networks are very loose, and the Internet now allows anyone who wishes to become a terrorist to become one anywhere, anytime. For example, the "*Al-Ansar*" chat room network was involved in plots by young men in half-a-dozen countries (U.S., U.K., Canada, Sweden, Denmark, Bosnia), and many of the men had never physically met. They would hack into Midwest media sites to post jihadi videos (e.g., of Zarqawi's beheading of Nick Berg) and recipes for making car bombs and suicide vests from scratch. From a basement apartment in Britain, a self-styled *Irhabi 007* ("Terrorist 007") helped in his spare time to coordinate plots with some high school chums in Toronto to blow up the Canadian parliament, and with others to attack the U.S. embassy in Bosnia (3 conspirators who did meet up physically in Bosnia were arrested with AK-47s, suicide belts, and thousands of rounds of ammunition).

A main problem in terrorism studies is that most "experts" have little field experience (for understandable but not insurmountable reasons) and otherwise lack the required level of details that statistical and trend analyses could properly mine. There are many millions of people who express sympathy with al-Qaeda or other forms of violent political expression that support terrorism. From a 2005-2006 survey of 10 countries involving 50,000 interviews, a Gallup study projected that 7 percent of the world's 1.3 billion Muslims (some 90 million people) felt that the attacks on Sept. 11 were "completely justified." There are, however, only a few thousands who show willingness to actually commit violence. They almost invariably go on to violence in small groups consisting mostly of friends and some kin (although friends tend to become kin as they marry one another's sisters and cousins; indeed, there are dozens of such marriages among members of Southeast Asia's Jemaah Islamiyah).

Conclusions from the Field

The causes that humans are most willing to kill and die for are not just about particular ideas; they are about particular groups of people, in particular places, at particular times. Terrorist groups that kill and die for the Takfiri cause arise within specific "scenes": neighborhoods, schools (classes, dorms), workplaces, common leisure activities (soccer, mosque, barbershop café) and, increasingly, online chat rooms. The process of self-selection into terrorism occurs within these scenes. Takfiri terrorism is stimulated by a massive, media-driven transnational political awakening in which Jihad is

represented as the only the way to permanently resolve glaring problems of global injustice. This incites moral outrage against perceived attacks upon Islam. If moral outrage resonates with personal experience that reverberates among friends in a scene, and if aspects of the scene are already sufficiently action-oriented, such as group of soccer buddies or camp mates, then willingness to go out and do violence together is much more likely.

The publicity associated with spectacular acts of violence in the name of justice is the oxygen that currently fires terrorism. As Saudi Arabia's General Khaled Alhumaidan crisply said to me recently in Riyadh, "The front is in our neighborhoods but the battle is the silver screen. If it doesn't make it to the six o'clock news, then al-Qaeda is not interested." These young people constantly see and discuss among themselves images of war and injustice against "our people," become morally outraged (especially if injustice resonates personally, more a problem with immigrants in Europe than the USA), and dream a war for justice that gives their friendship cause. They mostly self-radicalize in cafés, barbershops, restaurants, and informal discussion groups (people mostly pray in mosques, not plot in them).

Most human violence is committed by young people seeking adventure, dreams of glory, and esteem in the eyes of their peers. Omar Nasiri's *Inside Jihad: My Life with Al Qaeda* (Perseus Books, 2006) rings true in its picture of the highs the militants get from the sense of brotherhood and sense of purpose. They want to belong to something that is at once intimate, bigger, and more permanent than a person alone. They kill and die for faith and friendship, which is the foundation of all social and political union, that is, all enduring human associations of non-kin: shared faith reigns in self-interest and makes social life possible; friendship allows genetically unrelated individuals to cooperate to compete. The most heroic cause in the world today is Jihad, where anyone from anywhere can hope to make a mark against the most powerful army in the history of the world. But they need their friends to give them courage, and it is as much or more for love of comrades than the cause that they will kill and die for in the end.

This new wave of Takfirism is about youth culture, not theology or ideology. It is mostly irrelevant to classic military and law enforcement programs that seek success by "imposing unsustainable costs" on enemies and criminals, as the U.S. Department of Defense *Quadrennial Defense Review* suggests.

It is about sharing dreams, heroes, and hopes that are more enticing and empowering than any moral lessons or material offerings (although jobs that relieve the terrible boredom and inactivity of immigrant youth in Europe, and with underemployed throughout much of the Muslim world, can help offset the alluring stimulation of playing at war).

How you change youth culture is a difficult and fickle affair. Role models or small changes often have big effects on attitudes and fashions (gangster culture, skateboarding, post-Madonna belly-button exposure, Hush Puppies fad). Take the new comic book series of 99 Muslim superheroes, modeled on Marvel comics, which is rapidly catching the imagination of legions of Muslim youth in Southeast Asia and now the Middle East. The first issue of *The Ninety-Nine* (published in Arabic and English editions beginning in 2006) weaves together heroic slam-bang action in the "fight for peace" with clear messages "to provide services ranging from the distribution of food and medicine to impoverished parts of the world" and "to multicultural educational programs and housing initiatives."

It is also important to provide alternate local networks and chat rooms that speak to the inherent idealism, sense of risk and adventure, and need for peer approval that young people everywhere tend toward. It even could be a 21st-century version of what the Boy Scouts and high school football teams did for immigrants and potentially troublesome youth as America urbanized a century ago. Ask any cop on the beat: these things work. It has to be done with the input and insight of local communities, however, or it will not work. De-radicalization, like radicalization itself, engages from the bottom up, not from the top down. This, of course, is not how you stop terrorism today, but how you help prevent it tomorrow.

Scott Atran is Presidential Scholar at the John Jay College of Criminal Justice in New York City, Visiting Professor of Psychology and Public Policy at the University of Michigan, and Research Director in Anthropology at the National Center for Scientific Research in Paris.

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supporters to give money and other forms of assistance to his cause. Had his presence in New York been limited to a Brooklyn apartment and an office in Jersey City, his scope of influence would likely have been far more limited.

Conclusion and Lessons for Law Enforcement
Although U.S. law enforcement agencies have made consistent and effective efforts to thwart terrorist operations at the tactical level, a more holistic counter-terrorism strategy is desired, one which should include measures to detect and disrupt opportunities for extremist groups to radicalize domestic Muslim populations. Unfortunately, law enforcement cannot tackle the problem alone; agencies must rely on the cooperation of the Muslim community, which is equally concerned by the presence of radical Islamists. As the aforementioned case studies demonstrate, laws are generally not broken during the process of an extremist takeover. Disputes between factions in an Islamic establishment are usually civil issues. Yet, because most law enforcement agencies have developed positive relationships with special interest groups within their jurisdictions, there is a greater possibility that they will be notified of a negative presence. With training, law enforcement agencies will be able to recognize the signs of radical Islamist infiltration in their jurisdictions when they cannot count on being notified by members of the community. As law enforcement becomes more aware of the phenomenon, they will become a more sympathetic and able partner to the Muslim community. An increase in understanding will lead to enhanced cooperation, and, in the event that a crime is committed, a complaint will be made faster and with a greater level of trust and comfort.

Madeleine Gruen is an intelligence analyst who works with law enforcement. Her research on Hizb al-Tahrir, radicalization and indoctrination tactics has been published widely. Ms. Gruen is a master's degree candidate at Columbia University's School of International and Public Affairs.

Radical Madrasas in Southeast Asia

By Scott Atran, Justin Magouirk and Jeremy Ginges

SENIOR GOVERNMENT OFFICIALS in the United States, United Kingdom and France, among other countries, have repeatedly voiced concerns about the threat to world security posed by Islamic schools that allegedly teach hate and murder. In 2005, Peter Bergen and Swati Pandey published an op-ed with the *New York Times* on "The Madrassah Myth," where they argued that most *madrasas*, or Islamic boarding schools, are moderate and are not associated with terrorism and political violence. After examining some high-profile attacks, they surmised that:

> While madrassas are an important issue in education and development in the Muslim world, they are not and should not be considered a threat to the United States. The tens of millions of dollars spent every year by the United States through the State Department, the Middle East Partnership Initiative, and the Agency for International Development to improve education and literacy in the Middle East and South Asia should be applauded as the development aid it is and not as the counterterrorism effort it cannot be.

In an extension of this argument in *The Washington Quarterly*,[1] Bergen and Pandey conclude that we must eliminate the "assumption that madrassas produce terrorists capable of carrying out major attacks" in order to "shape more effective policies to ensure national security."

Overall, this analysis is a welcome respite from the rash rhetoric that often characterizes responses to terrorist attacks such as 9/11 and the 2005 London Underground bombings. Yet, in attempting to rectify the typical hysterical media responses to *madrasas*, the argument may go too far.

The Role of Radical Madrasas in Terrorist Attacks
It is true that most *madrasas* are peaceful and serve a constructive role in societies where education is often a privilege rather than a right, and where, as in Pakistan, the state has increasingly released mass education and student welfare to *madrasas* as it continues to spend many times more on the military.[2] Yet this overlooks the fact that elsewhere, particularly in Indonesia and Malaysia, *madrasas* such as al-Mukmin, Lukman al-Hakiem and al-Islam have been vitally important in furthering the mission of some of the most volatile terrorist groups, such as Jemaah Islamiyah (JI), in efforts to attack American, Australian and other Western-related interests. In fact, the majority of JI terrorist attacks—including the Christmas Eve bombings of 2000 and Bali I in 2002, as well as the Jakarta Marriott bombing in 2003 and the Australian Embassy attack in 2004 (which involved JI members but were not institutionally JI)—have been staffed and led by individuals associated with radical *madrasas*.

To explore these competing claims and to address the *madrasa* question systematically, data was recently analyzed from the ongoing Global Transnational Terrorism (GTT) Project.[3] Overall, the findings demonstrate that attendance and other forms of association (teaching, socializing or attending lectures) with JI-linked radical *madrasas* are correlated with both participation and role in JI terrorist attacks. By using aggregate level data on Indonesian education rates, it is clear that JI-linked *madrasa* attendance rates of the jihadists that took part in the Bali I, Marriott and Australian Embassy bombings are 19 times greater than the highest estimated rates of the general population. Using an ordered logit statistical analysis of 75 jihadists involved in the same operations, we found that JI-linked *madrasa* attendance is associated with a greater role in JI terrorist operations, decreasing the

1 Peter Bergen and Swati Pandey, "The Madrassa Scapegoat," *The Washington Quarterly* 29 (Spring 2006): pp. 117-125.

2 Even before September 11, the ratio of defense spending to health and education spending in Pakistan was 239:1. See Stephen Burgess, "Struggle for Control of Pakistan," in Barry Schneider and Jerrold Post eds., *Know Thy Enemy: Profiles of Adversary Leaders and Their Strategic Cultures*, 2nd ed. (Collingdale, PA: Diane Publishing Company, 2004).

3 Undertaken in collaboration with Marc Sageman and Dominick Wright, and under the auspices of the Air Force Office of Scientific Research.

probability that a jihadist will take a low level role on a terrorist operation by more than 19% and increasing the probability that a jihadist will play a major role by 16%.[4]

Data was also analyzed from structured interviews with more than 100 students in four Indonesian *madrasas* (*pesantren*, or boarding schools) to attempt to explain these associations, and striking correlations were found between unusual belief systems and radicalization. Two of the schools, Darussalam and al-Husainy, are associated with Nahdlatul Ulama (NU), or Revival of Islamic Scholars, a mass movement that had originally played a key role in the fight for independence against Dutch rule and which is associated with a traditional and non-dogmatic Indonesian form of Islam influenced by Balinese Hinduism, Buddhism and Sufi mystical beliefs. One school, Ibnu Mas'ud, is funded by the Majelis Mujahidin Indonesia (MMI), or Council of Indonesian Holy Warriors, an Islamist coalition whose goal is to convert Indonesia into a strict Sunni state ruled by Shari'a law.[5] The remaining school, al-Islam (in Tengulun, East Java), was

"At al-Islam, 74% of the students (compared to seven percent of the students at other schools) believed that all people 'were born evil but some learn to become good.'"

established in 1992 by the father of three of the main Bali bombing plotters (Ali Imron, Amrozi and Mukhlas) and modeled on the famous al-Mukmin school in Ngruki (Solo, Central Java) created by JI founder Abdullah Sungkar and his colleague Abu Bakr Ba'asyir. After Sungkar's death in 1999, Ba'asyir became al-Islam's patron and officiated at graduation ceremonies. After the Bali bombing, Ba'asyir said that he believed the victims of the bombing would go to hell,[6] and that the bombers

and plotters were heroic mujahidin.[7]

After exploring attitudes toward Islam and other religions, no significant differences between the NU and MMI schools were found, whereas al-Islam stood apart on a variety of measures.[8] At al-Islam, 91% of the students (compared to 35% of students at the other *madrasas*) believed that it was their duty as Muslims "to fight and kill non-Muslims such as Christians."[9] At al-Islam, 74% of the students (compared to seven percent of the students at other schools) believed that all people "were born evil but some learn to become good."[10] Across all schools, students who believed people are "born evil" were about 11 times more likely to believe it was their duty to kill non-Muslims.[11]

Students were also asked to imagine what would happen if a child born of Jewish parents were adopted by a religious Muslim couple. While 83% of students from other schools thought that the child would grow up to be a Muslim, only 48% of students at al-Islam shared that belief.[12] This essentialist belief that a child born of another religion could never fully become a Muslim was strongly related to support for violence. Students with this belief were about 10 times more likely than other students to believe that it was their duty to kill non-Muslims.[13] Note that the difference between al-Islam and the other schools cannot be attributed to different levels of religiosity, or even different levels of agreement with political Islam. Fewer students at al-Islam (71% compared to 82% of students at the other schools) believed it was "very important...that a

Indonesia," *Boston Globe*, October 17, 2002.

7 Cited in Scott Atran, "The Emir: An Interview with Abu Bakr Ba'asyir, Alleged Leader of the Southeast Asian Jemaah Islamiyah Organization," *Spotlight on Terrorism* 3:9 (2005).

8 Median age at NU schools was 16, and 18 at the other schools. Females comprised nearly half of the student body at the NU schools, five percent at al-Islam and none at the MMI school. Questionnaires were distributed only to males. Interestingly, at al-Islam 71% of respondents said they joined the school through pre-existing social networks of friends, whereas 70% of respondents at the other schools were sent there by their family.

9 Chi-square = 43.01, $P < 0.0001$.

10 Chi-square = 38.39, $P < 0.0001$.

11 Wald = 13.042, 95% CI for OR = 2.98-39.73, $P = 0.0003$.

12 Chi-square = 36.166, $P < 0.0001$.

13 Wald = 9.139, 95% CI for OR = 2.3 - 49.7, $P = 0.003$.

good government implement the laws of Shari'a" (not a significant difference statistically, $P > 0.4$).

Another finding is that radical *madrasas* in Southeast Asia are important not only as tools of indoctrination, but also as "focal points" to draw like-minded radicals together, a point often missed by

"Association with a JI-linked radical madrasa is a strong predictor of a jihadist's role in terrorist operations in Southeast Asia."

terrorism analysts. Association with a JI-linked radical *madrasa* is a strong predictor of a jihadist's role in terrorist operations in Southeast Asia. For example, both the spiritual guide of the Bali operation, Mukhlas, and the field commander, Imam Samudra, attended or associated with JI-linked radical *madrasas*, and built their financial, logistical and operational network around *madrasa* ties. The same is true for Dulmatin and Azhari Husin, the main bomb-makers in the operation. The study found that association with Lukman al-Hakiem, a radical JI *madrasa* in Malaysia, increases the probability that a jihadist will play a major role by more than 23%. Based on this analysis, it can be surmised that JI-linked radical *madrasas* are both production sites and service centers for jihadists.

The following page shows a social network diagram of the 2002 Bali bombing that illustrates the connections between the different jihadists that took part in the bombing. Note that 16 of the 27 jihadists either attended or were associated with the radical *madrasas* Lukman al-Hakiem or al-Mukmin,[14] including most of the leadership, planners and operators.

4 Justin Magouirk, "Connecting a Thousand Points of Hatred," *Studies in Conflict and Terrorism* 31:4 (2008).
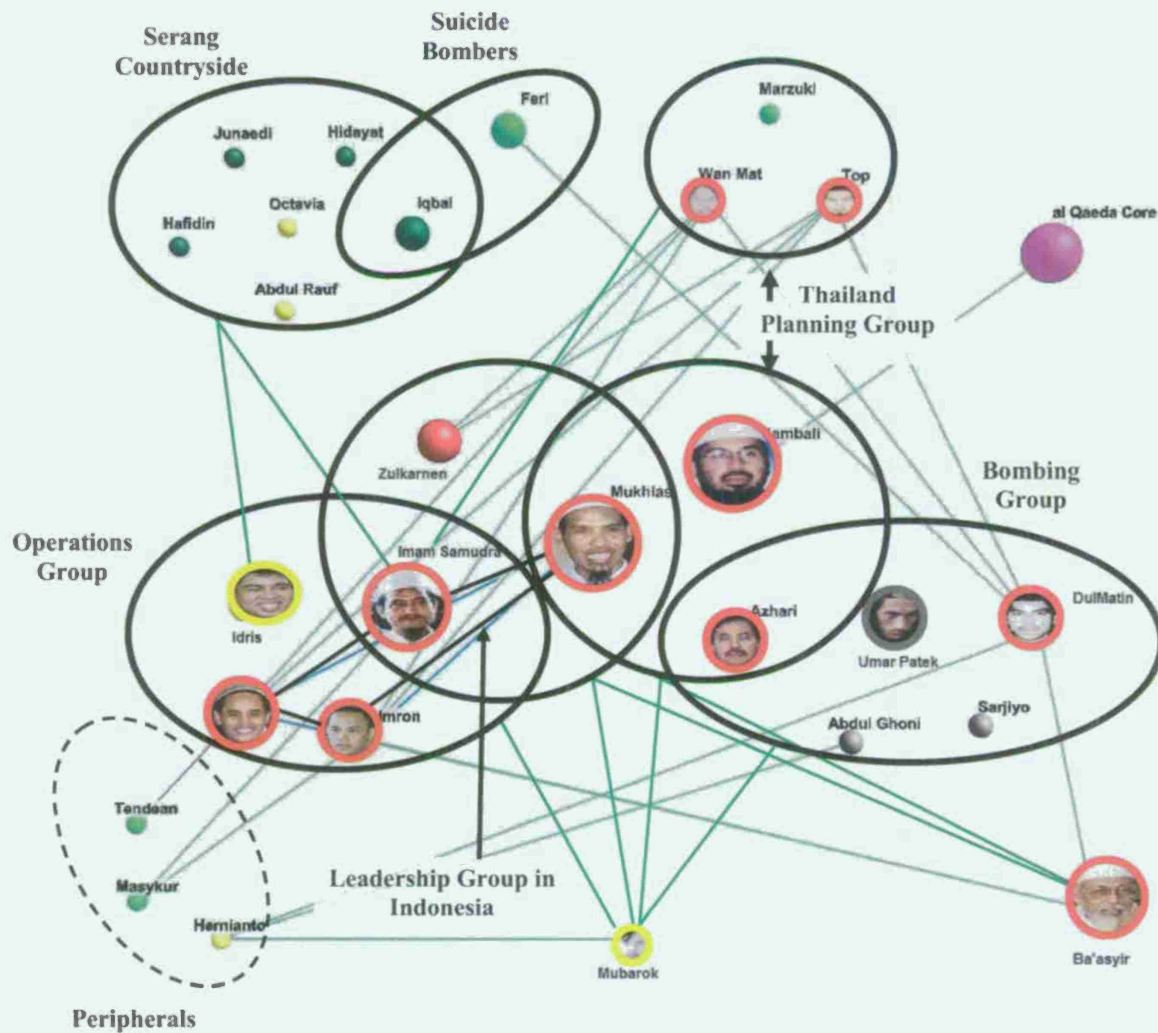5 MMI is led by Abu Bakr Ba'asyir and has a membership that overlaps with but is broader than JI.
6 Cited in Indira Laksshaman, "Islamic Leader Warns

14 Node size is based on the reputation of the individual. Reputation is derived from a mathematical algorithm that addresses both organizational role and attack history.

Bali Network 2002

Serang
Countryside

Suicide
Bombers

Feri

Junaedi   Hidayat

Marzuki

Octavia

Wan Mat   Top

Hafidin   Iqbal

al Qaeda Core

Abdul Rauf

Thailand
Planning Group

Bombing
Group

Zulkarnen

Hambali

Mukhlas

Operations
Group

Imam Samudra

DulMatin

Idris

Azhari

Umar Patek

Imron

Abdul Ghoni   Sarjiyo

Tendean

Masykur

Leadership Group in
Indonesia

Herniantol

Ba'asyir

Mubarok

Peripherals

LEGEND

- ● = Lukman Group
- ● = Afghan Ties
- ● = Al-Mukmin Ties
- ● = Other Serang Ties
- ● = Misc. Other Ties
- ● = al Qaeda Core

- ◌ Group
- ◯ Completely Linked Group
- ▬ Weak Tie
- ▬ Medium Tie
- ▬ Family / Strong Tie

After the Bali I operation, most of the individuals who helped hide Ali Imron, one of the bombers, were students at or were associated with al-Islam, where he was a teacher. For instance, Hamzah Baya (class of 1999), Eko Hadi Prasetyo (1998), Sukastopo (met Imron at al-Islam), Sofyan Hadi (1998), Imam Susanto (2001), Sirojul Munir (parent of al-Islam student), Ilham bin Abdul Muthalib (2001), Muhammad Rusi bin Salim (1998), Azhari Dipo Kusuma (teacher at al-Islam at the same time as Ali Imron), Sumaro (1997) and Abdullah Salam (1999) were all arrested (and released in 2006) for hiding or helping Imron flee after the bombing.[15] Two others were tried in district court on charges of aiding Ali Imron, one of which was a relative of Ali Imron and the other a parent of a former student at al-Islam. The 2002 Bali operation is not unique.

Implications for an Anti-Terrorism Policy

From this data, a number of implications for an effective anti-terrorism policy can be drawn. First, allied governments should hone their focus on a small subset of radical *madrasas*. There is no evidence that *madrasas* in general spawn, or are even correlated with, terrorism; nevertheless, our research shows that, at least for Indonesia and Malaysia, there is strong statistical evidence that radical *madrasas* are correlated with terrorism and support for violence against those who hold different beliefs. These radical *madrasas* preach a jihadist version of *takfiri* ideology. *Takfiris* view contemporary society as antithetical to Islamic values and consider the killing of fellow Muslims to be justified in their cause to purify the community of alien influences. *Takfiri* jihadists reject standard Salafist teaching, which proscribes the killing of fellow Muslims and the overthrow of states ruled by Muslims because this would produce division and discord (*fitna*) in the community. In fact, the strict Salafist schools are generally the most virulent opponents of jihadism in Indonesia and elsewhere. Within JI there has been a debate over whether attacks are legitimate on Indonesian soil and, if so, whether

the killing of Muslims is allowed.[16] It is clear from the data that the role of radical *madrasas* concerns only the *takfiri* wing of JI, which allows both attacks on Indonesian soil and the killing of Muslims as well as foreigners for the sake of jihad.

Radical *madrasas* have provided operatives for every major JI attack outside of the strictly local conflicts between Muslims and Christians in Ambon and Poso.[17] Most of the Bali attackers and planners either attended or were associated with one of three JI-linked radical schools— al-Mukmin, al-Islam or Lukman al-Hakiem—and similar radical *madrasa* representation in other JI attacks indicates

> "Radical madrasas have provided operatives for every major JI attack outside of the strictly local conflicts between Muslims and Christians in Ambon and Poso."

that the radical *madrasa* factor is not an isolated phenomenon or one restricted to "unimportant" regional conflicts.

Second, governments should focus both foreign aid and counter-terrorism funding on combating this small but important group of radical schools. There are numerous social entrepreneurship organizations, such as Ashoka, that act as venture capital firms and fund innovative education programs in places like South and Southeast Asia, where education is often a privilege for the affluent. The effectiveness of such programs should be considered, whose "soft power" to wean away potential and future candidates for terrorism reliably produces wider and longer lasting results than direct diplomatic pressure or "hard power" alternatives that often backfire or cause blowback. It may not be possible to dissuade the small group of hardcore jihadists that hold unyielding

beliefs on the sanctity of their missions[18]; however, the number of jihadists that hold such unyielding beliefs prior to their association with radical *madrasas* or other focal points is relatively small. Accounts of the key Bali bombers show that radicalization occurred through association and attendance at radical *madrasas* and through militant training in Afghanistan and the Philippines.[19] Disrupting the radical *madrasa* source through competition could eliminate key radicalization centers for young males.[20]

Efforts should also focus intelligence gathering on radical *madrasas* that repeatedly produce terrorists. By focusing on a select group of radical *madrasas*, anti-terrorism efforts may be able to disrupt networks that form the basis for future attacks. This includes neutralizing the hardcore group of jihadists such as Bali bombers Mukhlas and Imam Samudra, who are most often part of these networks. This is a realistic mission for two reasons. First, the number of radical *madrasas* that preach *takfiri* ideology is quite small—our estimate is that under five percent of Indonesians attend radical *madrasas*. Second, within the small pool of radical *madrasas*, it should be possible to focus specifically on those that have direct ties to JI, as these are the schools that have funneled recruits to terrorist operations from 2000-2005.[21] Sidney Jones, Southeast Asia project director for the International Crisis Group, counts 30 such schools in Indonesia (out of about 14,000, or 2/10 of a percent).[22]

15 Thanks to Sidney Jones for providing this information. The al-Islam supporters were clearly not terrorists in the sense that the bombers were. Most of them were members of KOMPAK, an Islamic charity linked to JI (as well as other militant Islamic groups), but not part of JI. In his new book, Ali Imron deeply regrets getting them into trouble. See *Ali Imron, Sang Pengebom* (Ali Imron, the Bomber) (Jakarta: Republika Press, November 2007).

16 International Crisis Group, "Indonesia Background-er: Why Salafism and Terrorism Mostly Don't Mix," September 13, 2004.

17 There were more attacks in Poso between 2003 and 2006 than in the rest of Indonesia combined. None of the perpetrators there went to JI schools.

18 Scott Atran, "Global Network Terrorism," NSC brief-ing, White House, Washington, D.C., April 28, 2006.
19 See Sally Neighbour, *In the Shadow of Swords: On the Trail of Terrorism from Afghanistan to Australia* (Sydney: HarperCollins Australia, 2004).

20 The Bali examples support evidence that jihadists tend to radicalize each other when they are isolated away from family and mainstream society. See Marc Sageman, *Leaderless Jihad* (Philadelphia, PA: University of Pennsylvania Press, 2008).

21 JI could start to recruit from non-JI affiliated *madra-sas*, and if this occurs the counter-terrorism focus would have to change. Although Noordin Top, the current attack leader of JI, has successfully enlisted operatives from outside the JI cadre of jihadists, he has still shown a strong tendency to rely on JI-affiliated *madrasas*. Accordingly, this small group of *madrasas* still presents a good place to commence counter-terrorism efforts.
22 Personal interview, Sidney Jones, January 18, 2008.

By focusing government aid and intelligence gathering on a small group of radical *madrasas*, lives and interests could be saved, with little if any effect on the network of moderate *madrasas* that provide masses of people with needed education in parts of Southeast Asia and elsewhere.

Scott Atran is a political violence consultant for RTI International. He received his Ph.D. in anthropology from Columbia University. Dr. Atran is currently research director in anthropology at the National Center for Scientific Research in Paris, France, visiting professor of psychology and public policy at the University of Michigan and presidential scholar in sociology at the John Jay College of the City University of New York. Published in leading scientific journals, such as Science *magazine and* Behavioral and Brain Sciences, *his work has also been covered by news and print media around the world, including feature stories in the* New York Times *and* Wall Street Journal.

Jeremy Ginges is an Assistant Professor of Psychology at the New School for Social Research in New York City. Dr. Ginges received his doctorate from Tel Aviv University and has had appointments at the University of Pennsylvania and the University of Michigan. He has published widely on the psychology of terrorism and intergroup conflict.

Justin Magouirk spent two years as the Manager and then Executive Director for the Global Transnational Terrorism Project. He received his MA and Ph.D. in Political Science (focus on terrorism) from the University of Michigan. Dr. Magouirk currently works for a Seattle-based consulting firm.

The Salafi-Jihad as a Religious Ideology

By Assaf Moghadam

IN RECENT YEARS, a growing number of analysts and policymakers have referred to the doctrines guiding al-Qa`ida and its associates as an ideology, and they appear to have influenced the Bush administration into adopting the term as well. In an address at the Capital Hilton in Washington, D.C. in September 2006, for example, President Bush characterized the 9/11 suicide hijackers as men who "kill in the name of a clear and focused ideology."[1] In the National Strategy for Combating Terrorism (NSCT) released in the same month, the authors described al-Qa`ida's set of beliefs as "an ideology of oppression, violence, and hate,"[2] as well as "a form of totalitarianism following in the path of fascism and Nazism."[3]

Although descriptions of the precepts and beliefs guiding al-Qa`ida and its associates as ideological in nature certainly hit the mark, few serious attempts have been made to justify the use of the term "ideology" in connection with the Salafi-jihad—the guiding doctrine of al-Qa`ida, its affiliates, associates and progeny.[4] This article will discuss the nature of ideologies and examine the extent to which the Salafi-jihad can be compared to other ideologies such as fascism or communism. It concludes that the Salafi-jihad is best described as a religious ideology rather than a secular ideology such as fascism or National Socialism. The final part will explain why a proper labeling of the Salafi-jihad has important policy implications.

1 "President Discusses Global War on Terror," September 5, 2006, available at www.whitehouse.gov/news/releases/2006/09/20060905-4.html.

2 National Strategy for Combating Terrorism, September 2006, p. 5, available at www.whitehouse.gov/nsc/nsct/2006/nsct2006.pdf.

3 Ibid., p. 11.

4 For the purposes of this article, the terms Salafi-jihad, Salafi-jihadists and Salafi-jihadist refer to the core doctrines and beliefs of al-Qa`ida and its associated movements—i.e., its ideology. It does not refer to the larger social movement comprised of al-Qa`ida and its associates.

The Functions of Ideologies

Ideologies have several core functions, of which the first is to raise awareness to a particular group of people that a certain issue deserves their attention. Ideologies explain to that "in-group" why social, political, or economic conditions are as they are. Since individuals often seek explanations in times of crisis, ideologies are particularly appealing when a group of people perceives itself to be in a predicament. The second function is a diagnostic one, whereby the ideology attributes blame for the present predicament of the in-group upon some "out-group." The out-group is identified with a certain behavior that, according to the narrative offered by the ideology, undermines the well-being of the in-group. A third function of ideology lies in the creation of a group identity. At the same time that the out-group is blamed for the predicament of the in-group, the ideology identifies and highlights the common characteristics of those individuals who adhere to, or are potential adherents of, the ideology. The fourth and final function of ideologies is a programmatic one. It consists of the ideology offering a specific program of action said to remedy the in-group of its predicament and urges its adherents to implement that course of action.[5]

Ideologies are links between thoughts, beliefs and myths on the one hand, and action on the other hand. They can be instruments of preservation in as far as they can help a given group to preserve its political power. More commonly, however, ideologies are used as instruments of competition and conflict, whereby a group can utilize ideology as a means of opposition and contestation. Once a group internalizes the sets of beliefs associated with a given ideology, that ideology provides a "cognitive map" that filters the way social realities are perceived, rendering that reality easier to grasp, more coherent, and thus more meaningful. It is for that reason that ideologies offer some measure of security and relief in the face of ambiguity— particularly in times of crisis.

Ideology may help create significant divides between adherents and non-

5 A similar categorization of the functions of ideology is used in Terence Ball and Richard Dagger, *Political Ideologies and the Democratic Ideal*, 3rd ed. (New York: Longman, 1999).

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Connecting Terrorist Networks

JUSTIN MAGOUIRK

University of Michigan
Ann Arbor, Michigan, USA

SCOTT ATRAN

CNRS, France
and
John Jay College of Criminal Justice
New York, New York, USA
and
University of Michigan
Ann Arbor, Michigan, USA

MARC SAGEMAN

University of Pennsylvania
Philadelphia, Pennsylvania, USA

This article highlights initial findings from the authors' Global Transnational Terrorism (GTT) Project, which began in August 2006. The case study draws on the database work for Southeast Asia and charts the rise of a militant minority within Jemaah Islamiyah, which was directly responsible for a series of attacks from 2000–2005. The important but restricted role of radical madrassahs and the importance of kinship emerge clearly from the study. On a more theoretical plane, the article shows how leadership "niches" opened up by unplanned events create contingent opportunities that lead to new developments.

Overview

Terrorism is a defining phenomenon of these times. Unfortunately, pundits and policymakers often discuss terrorism as if it were a monolithic entity. In reality, it is a varied class of

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violence, with multiple ideological motivations, numerous tactics, and manifold levels of lethality. To clarify the discussion, this article focuses on a specific type of terrorism, global transnational terrorism (GTT). This class of violence has two parts. The "global" aspect refers to groups that target the "far enemy." There are numerous terrorist groups such as the Tamil Tigers in Sri Lanka, ETA in the Basque Country, Hamas in the Occupied Territories, and Hezbollah in Southern Lebanon that are restricted to local conflicts. These groups' tactics are targeted at governments that thwart their parochial goals. Groups that target the "far enemy" see beyond the local and regional governments and concerns and hone in on the main enemy that "controls" the near enemies. Bin Laden encapsulates this argument when he noted in his 8 August 1996 declaration of "War Against the Americans Occupying the Land of the Two Holy Places":

> People of Islam should join forces and support each other to get rid of the main Kufr who is controlling the countries of the Islamic world, even to bear the lesser damage to get rid of the major one, that is the great Kufr.[1]

GTT refers to groups of non-state actors that operate in multiple countries. GTT groups such as Al Qaeda and Jemaah Islamiyah (JI) often have more extensive network capabilities and are subsequently more difficult to eliminate. This results from the fact that tracking such groups requires coordinated police and intelligence actions that only amplify whatever bureaucratic impediments exist within and across national agencies. The growth and development of GTT is largely a decentralized and evolutionary process, based on contingent adaptations to unpredictable events and improbable opportunities, more the result of blind tinkering (of fragmentary connections between semi-autonomous parts) than intelligent design (hierarchical command and control). As in any natural evolutionary process, individual variation and environmental context are the creative and critical determinants of future directions and paths. To ignore or abstract away from variation and context is to entirely miss the character of GTT along with better chances for intervention and prevention from the bottom up rather than the top down.

This article highlights some initial findings from the authors' Global Transnational Terrorism (GTT) Project, which began in August 2006 under the auspices of the Air Force Office of Scientific Research. The case study draws on the database work for Southeast Asia and charts the rise of a militant minority within JI, which was directly responsible for a series of attacks from 2000–2005 in Southeast Asia. The important but restricted role of radical madrassahs and the importance of kinship emerge clearly from the study. On a more theoretical plane, the article shows how leadership "niches" opened up by unplanned events create contingent opportunities that lead to new developments.

Database Development

A major problem facing the study of terrorism today is a lack of strong, quantitative data that is freely available for scientific research in the academic, policy, and government communities. This dearth of data unfortunately results in theoretical modeling that is often divorced from important policy questions that the U.S. government faces in the ongoing effort to fight global terrorism. Consequently, there are a vast number of modelers with "hammers" that are searching desperately for "nails," but that have no conception of the empirical reality that should guide their search. In order to fruitfully marry theoretical modeling to government policy it is necessary to create a comprehensive, freely available

database that the research community can utilize to guide and test theoretical models. This is what the GTT Project aims to do.

Database Structure

The GTT Database rests on two foundations. The first is a detailed categorization of basic biographical and socioeconomic data that includes:

- Name
- Alias
- Nationality
- Ethnicity
- Date of birth
- Organizational affiliation
- Previous militant affiliation
- Previous non-militant affiliation
- Arrest date
- Death date

- Place of birth
- Education detail
- Education level
- Education type
- Occupation
- Operation summary
- Release date
- Militant Training
- Source information

This foundation is vital for testing the importance of basic, non-variant factors in individuals' decisions to pursue terrorist violence. For example, the authors found there was no evidence of specific individual characteristics associated with a predisposition toward participation in terrorism. Similarly, they found that there were no general "root causes" that lead to terrorism in Southeast Asia. For example, in Indonesia, hundreds of millions of people live in the same conditions, but only a very small percentage have responded with violence.[2] There is also no evidence that JI terrorists are drawn disproportionately from young males who are indoctrinated at a young age. Figure 1 below shows that there are a number of JI terrorists that are in their 20s; however, a significantly larger proportion are in their 30s and 40s, a fact missed by analysts that focus on radicals preying on teenage males in madrassahs and radical mosques.

The second database foundation addresses the vast network of connections that form the glue that holds the diverse array of jihadists together. This work includes a

Age - Southeast Asian Jihadists
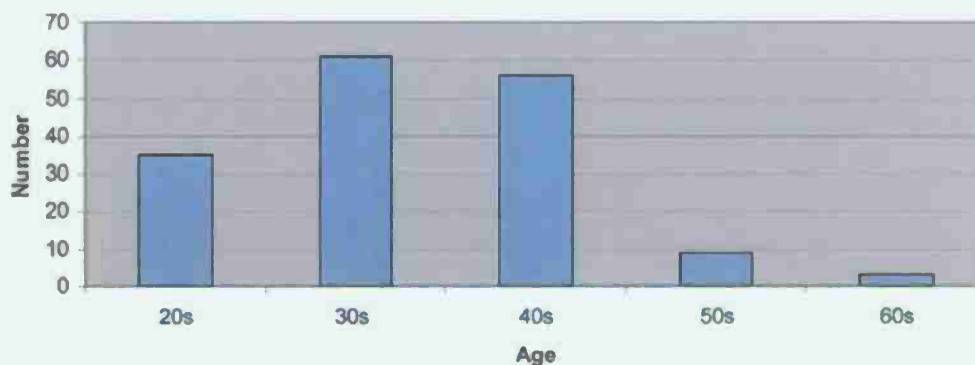
Figure 1. Age of Southeast Asian jihadists in the GTT database.

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comprehensive examination of acquaintance, friendship, family, madrassah, and terrorist training (Afghanistan, southern Philippines, etc.) ties. Documentation includes:

- Name
- Operation role
- Tie ID
- Tie name
- Relationship detail

- Tie reliability
- Tie year
- Tie extinguish date
- Strength of tie per period
  (10–21 periods depending on case)

In future analyses, the authors hope to address how time-series connection data allows one to evaluate the resiliency of terror networks and how counterterrorist activities affect terrorist network structures.

All ties in the database are meticulously sourced with a focus on primary documents. These ties are also rigorously documented based on a methodology created to discern differences in the strength of ties over time and in the reliability of the ties based on the available open-source information. Tie strength is outlined in what follows and increases with number.

Strength of Tie 1
- In-Laws
- Acquaintances

Strength of Tie 2
- Friends/non-nuclear family
- Operational leadership
- Operational ties

Strength of Tie 3
- Nuclear family

To address the reliability of ties, the authors created a methodology to discern differences in the reliability of the information culled from open sources. Tie reliability increases with number.

Tie Reliability of 1
- Media accounts that are not based on direct sources

Tie Reliability of 2
- Media accounts that stem from direct sources

Tie Reliability of 3
- Letters
- Photos
- Direct government-released or government-seized documents
- Other direct documents
- Court testimony
- Telephone conversations
- First hand testimony/interviews

The database for the case study currently details approximately 300 jihadists, with over 1,600 lines of network relations. Hopefully, this database will serve as a foundation for future academic and policy research that is grounded in empirical realities rather than theoretical fantasies. Additionally, the database should provide a complement to most other databases that are incident based (MIPT, Rand/START, ICT, GTD, etc.). This will allow researchers to address theoretical questions from two levels of analysis—incident-level and

individual/network level (GTT Database). The database will be accessible on the Internet in 2009.

Militant Minority Findings

One common misconception is to view terrorist groups as highly disciplined, hierarchical organizations. In reality, terrorist groups are more complicated, with JI being a perfect example. JI was hijacked by a militant minority in 1999–2000 that sidelined the moderate majority of the organization and subsequently blazed a trail of terror across Southeast Asia in the 2000s.[3] JI was formed in 1993 by Abdullah Sungkar and Abu Bakar Ba'asyir after the two leaders split with the leadership of Darul Islam, a jihadist movement in Indonesia. Sungkar was the central figure and the source of vision, inspiration, and direction for JI until he died in 1999. Ba'asyir served as his second in command; however, Sungkar ruled JI with an iron hand and did not allow any other centers of power to arise within the organization.

Sungkar's death in 1999 was a cataclysmic event for JI, and it left a leadership void that would never truly be filled. Sungkar's long-time confidant, Ba'asyir, was expected to successfully lead the organization after his death. However, Ba'asyir provided "oracular" rather than "operational" leadership, leaving an operational void for the organization. Unlike the centralized Sungkar era, the organization split into two fractious groups under the leadership of Ba'asyir. The "moderate majority"[4] wing came under the control of Abu Fatih, the head of Mantiqi II (JI's regional sub-organization for Indonesia), Mustopa and Nasir Abas, the successive heads of Mantiqi III (Philippines), and Abdul Rahim Ayub, the head of Mantiqi IV (Australia). The radical minority wing was led by Hambali, the head of Mantiqi I (Malaysia, Singapore), and Zulkarnaen, the chief of military affairs for JI's Central Command council. Ba'asyir, who was unwilling to provide the operational vision for the organization, initially sided with Hambali. This support allowed Hambali to radicalize the organization through his pursuit of violent, terrorist activities and his funding connections with Al Qaeda.[5] Hambali's "militant minority" was responsible for all of JI's terrorist attacks from 2000–2003. In 2000 alone, Hambali was responsible for seven sets of attacks—the Medan Church Bombings, the Jalan Kenanga/Sitorus Bombing, the Philippines Ambassador Residence (PAR) Bombing, the Jalan Sudirman Bombing, the Indonesian Communion of Churches Bombing, the Rizal Day Bombing, and the Christmas Eve Bombings.[6] All but the PAR and Rizal Day attacks were church bombings, which were part of Hambali's strategy to foment violence between Christians and Muslims in an attempt to expedite radicals' ascension to power and to expedite the implementation of Islamic law in Indonesia. The PAR bombing (which entailed the use of a car bomb to attack the Philippines Ambassador when he entered his residence compound) and the Rizal Day bombings (a joint venture between JI and the MILF that involved five simultaneous explosions in Manila on 30 December 2000) were directed by Hambali as revenge for the Philippines government's decision to overrun the JI/MILF training camps—Camp Abu Bakar and Camp Hudaibiyah.

Consider the network representation of the JI leadership social relations in the mid-1990s (Figure 2). Node size represents overall reputation in the organization. Reputation is based on a rational decay algorithm that addresses a combination of organizational role and attack history with 15% annual decay rate and 85% annual retention rate. Three important individuals in the graph are Abdullah Sungkar (548), Abu Bakar Ba'asyir (10), and Hambali (520). It is clear from the diagram that Sungkar is the undisputed leader,
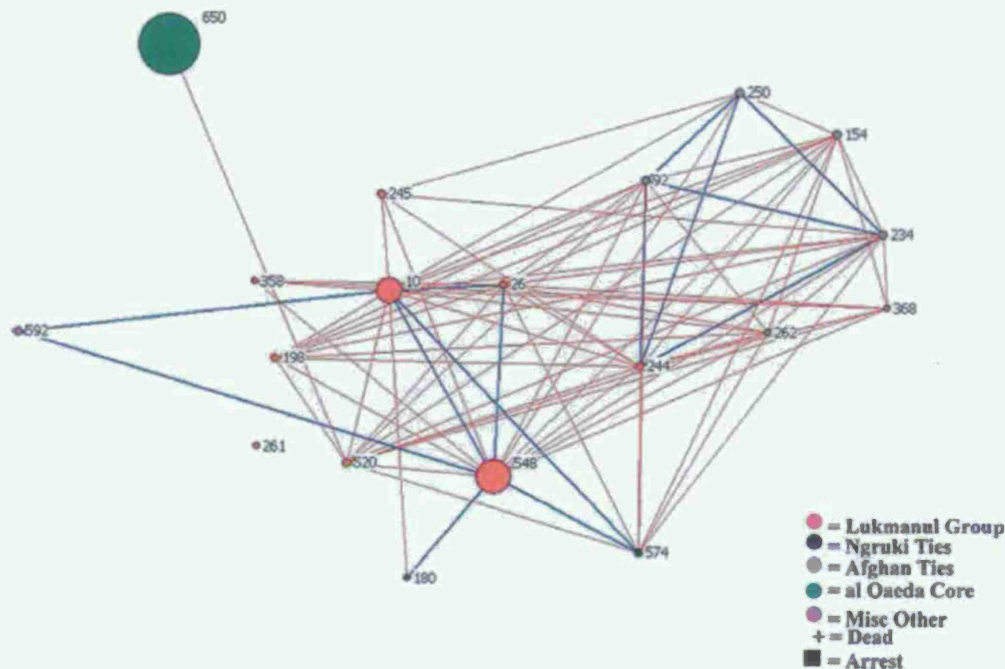
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Figure 2. Jemaah Islamiyah leadership network—1993–1995.

with no one approaching his level of authority (650 represents the Al Qaeda core and is separate from the overall JI organization). Outside of Sungkar and Ba'asyir, other leaders are generally equal in stature, a situation that changes dramatically with Sungkar's death.

Figure 3 illustrates the JI leadership structure as of late 2000. Ba'asyir is again represented by the 10 node and Hambali by the 520 node. In this graph, there are multiple centers of power. By 2000, Ba'asyir was the uncontested amir; however as a result of his oracular leadership style, he served largely as a source of inspiration and an arbiter when conflicts arose in the organization. In contrast to expectations, Hambali served as the CEO of JI, directing operations and training and allocating funding via the Al Qaeda money spigot. Fellow Mantiqi I leaders, Mukhlas (26), the director of the 2002 Bali bombings, and Faiz Bafana (368), treasurer of Al Qaeda, are clearly also important in the organization—both were leaders within Hambali's militant minority. Moderate members of the organization (or example, 92, 234, 574, 592) were minimized under Hambali's leadership. Whereas Hambali, Faiz Bafana, and Mukhlas grew in stature in the organization, moderate leaders were isolated from decision making. Instead of relying on these leaders for key administrative, planning, and staff support, Hambali relied almost entirely on his Mantiqi I underlings.

2000 was only the beginning for Hambali's militant group. Buoyed by his success in 2000, Hambali set about directing the 2001 Singapore bombing plots (foiled by the Singapore government in 2001), as well as several church bombings. The Singapore bombing plots were the first and only direct collaboration with Al Qaeda in which Al Qaeda supplied a potential suicide bomber, Ahmed Sahagi, and planner, Mohammed Mansour Jabara, in addition to its normal contribution of funding.[7] During this time, Hambali ignored the majority of other JI members and called on a small core of field commanders for his bombings, including Imam Samudra and Yazid Sufaat (field commanders for the 2000
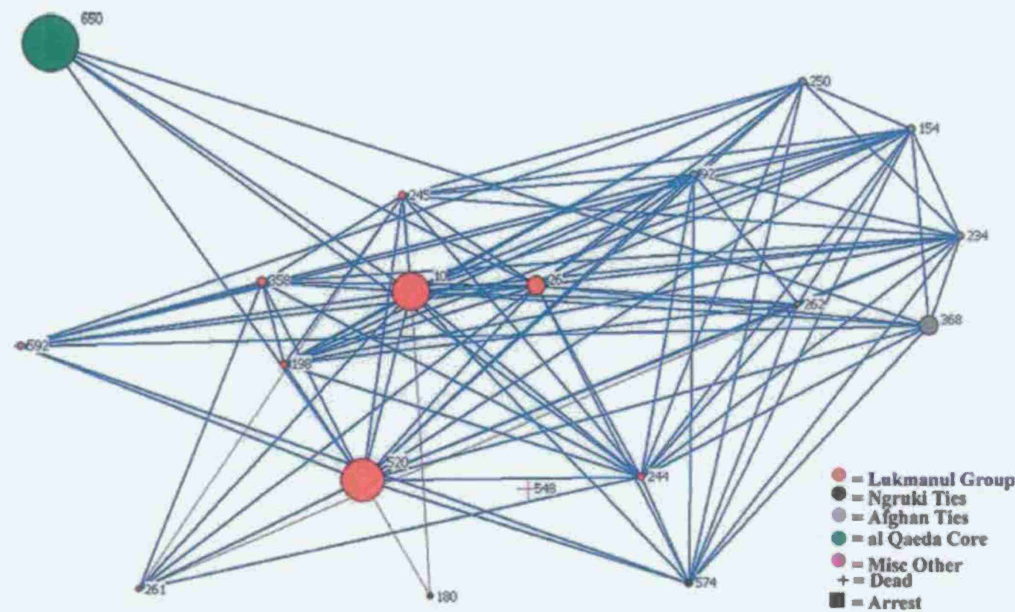
Figure 3. Jemaah Islamiyah leadership network—2000.

Christmas Eve bombing and many of the other church bombings), Mukhlas (Christmas Eve bombing, Philippines Ambassador Residence bombing, Singapore Bombing plots), Faiz Bafana (Christmas Eve bombing, Philippines Ambassador Residence bombing, Rizal Day bombings, church bombings, Singapore bombing plots), Fathur al-Ghozi (Philippines Ambassador Residence bombing, Rizal Day bombing, Singapore bombing plots), and Edi Setyono (Christmas Eve bombings, Philippines Ambassador Residence bombing, church bombings). Hambali also mobilized a small core of Mantiqi I jihadists including Amrozi, Ali Imron, Mubarok, DulMatin, Abdul Ghoni, Azhari Husin, Umar Patek, and Idris, all of which would later form the core group of the 2002 Bali bombing. This small group of bombers represented a minute percentage of the overall JI organization (most probably less than 10% of the entire organization), but was responsible for all of its violent actions.

Hambali's ambition is an interesting study itself. Prior to the 2002 Bali bombing, Hambali did not hesitate to steal jihadists from other JI leaders, often without telling them. In 2000 Hambali "borrowed" al-Ghozi, a Mantiqi III member under the leadership of Mustopa, for the Philippines Ambassador and Rizal Day bombings. Hambali also engaged in turf wars with the other leaders. Hambali was officially in charge of Malaysia and Singapore. However, he planned and implemented the Christmas Eve bombings and the other church bombings in Indonesia, which was the geographic domain of Abu Fatih, the head of Mantiqi II. Hambali also set up Jack Roche's meeting in February 2000 in Afghanistan with Al Qaeda's Khalid Sheikh Mohamed and Mohamed Atef to prepare for an attack on the Australian embassy in Canberra and the Israeli consulate in Sydney. The Ayub brothers, who headed Mantiqi IV and considered Roche their operative, balked at Hambali's encroachment onto their territory. According to the Australian police investigator who interrogated Roche, the Ayub brothers asked Ba'asyir to mediate the dispute. Roche said that Ba'asyir at first consented to the operation but then called Roche back a few days later to cancel it.[8] Nasir bin Abas, who later headed Mantiqi III, recalled similar attempts at interference by Hambali in Mustopa's Mantiqi III domain.[9] Hambali's brash disregard

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for other moderate leaders in the organization rubbed off on his followers, with individuals like Ali Imron and Amrozi often attacking more moderate leaders at organizational meetings.[10]

The militant minority led by Hambali reached its apex of power in 2002 around the time of the Bali I bombing, the most lethal and the most famous JI attack. Bali I is the culmination of a series of events starting with the death of the JI founder, Abdullah Sungkar, the oracular leadership of his alleged successor, Ba'asyir, and the rise of the militant minority within the ranks of JI. The Bali I bombing planning process started when Hambali convened a meeting of his radical Mantiqi I advisors, Mukhlas, Wan Min bin Wan Mat, Azhari Husin, Noordin Top, and Zulkifli Marzuki in Thailand in early 2002 to discuss future bombings. At the meeting, Hambali changed the focus to soft targets such as bars and nightclubs and handed out assignments. Top and Azhari would "apply" for funding through Al Qaeda, Mat would arrange the transfer of funds, and Mukhlas would handle the bombing. Because the Mantiqi I leadership was scattered and in hiding from Malaysian and Indonesian authorities, Mukhlas decided to work through the Mantiqi II administrative structure in Indonesia. But, in keeping with the precedent of Hambali, he chose to avoid the moderate Mantiqi I leader, Abu Fatih. Instead he chose to work through the radical Zulkarnaen, the Head of Military Affairs for JI and a fellow Central Command member.[11]

Mukhlas then chose Imam Samudra, perhaps the most radical and violent member in the entire JI organization, to head up the bombing.[12] Samudra recruited the usual suspects of radical JI members, most of which had already taken part in previous bombings—Ali Imron, Amrozi, Mubarok, Sarjiyo, Abdul Ghoni, Idris, DulMatin, Umar Patek, and so on. In mid-August, Zulkarnaen, Mukhlas, and Imam Samudra convened a meeting at Hernianto's house that was attended by the majority of the bombing participants, in which the plans for a bombing were announced and roles were handed out. From here, the mission planning was put into overdrive. Ali Imron, Umar Patek, Sarjiyo, Umar Patek, Abdul Ghoni, and DulMatin mixed and built the bomb with the guidance of Azhari Husin. Idris handled all logistical issues and Imam Samudra directed the ongoing operation.[13]

On 12 October, the two suicide bombers, Feri and Iqbal, detonated the bombs at Paddy's Bar and Sari Club, killing 202 people and injuring another 209. What is perhaps most surprising about the Bali bombing is that it was implemented by a small militant minority of JI, with no input from the majority of the organization, including high-level leadership. For example, at the October Markaziyah (Central Command) meeting shortly after the bombing, there was no discussion of the bombing. Nasir Abas, head of Mantiqi III, asked the JI Chief of Military Affairs, Zulkarnaen, if he knew who had carried it out. Zulkarnaen reportedly shot back that it was "none of his business."[14] With this bombing, JI went from being an organization with almost no name recognition outside of a small circle of intelligence officers to being one of the most notorious terrorist organizations in the world. This shift occurred against the will of the majority of JI leaders and organizational members. The social network for the Bali I bombing is highlighted in Figure 4.

Figure 4 demonstrates several important things. First, a significant number of participants were part of the radical Lukmanul Hakiem circle of JI (nodes in red). Although a minority of the overall JI membership, this group was certainly overrepresented in the Bali bombing. Second, although Ba'asyir's (10) detailed role is unknown for the Bali bombing, it is clear that he is *not* the driving force behind the attack. Rather, as noted before, the "militant minority"—the recycled bunch of Lukmanul Hakiem associates and Afghan trainees—were the driving force behind the bombing. In particular, Hambali (520) and his lieutenants such as Mukhlas (26) and Imam Samudra (1) directed the bombing and were centrally connected to all actors (see "Thailand Planning" and "Leadership Working
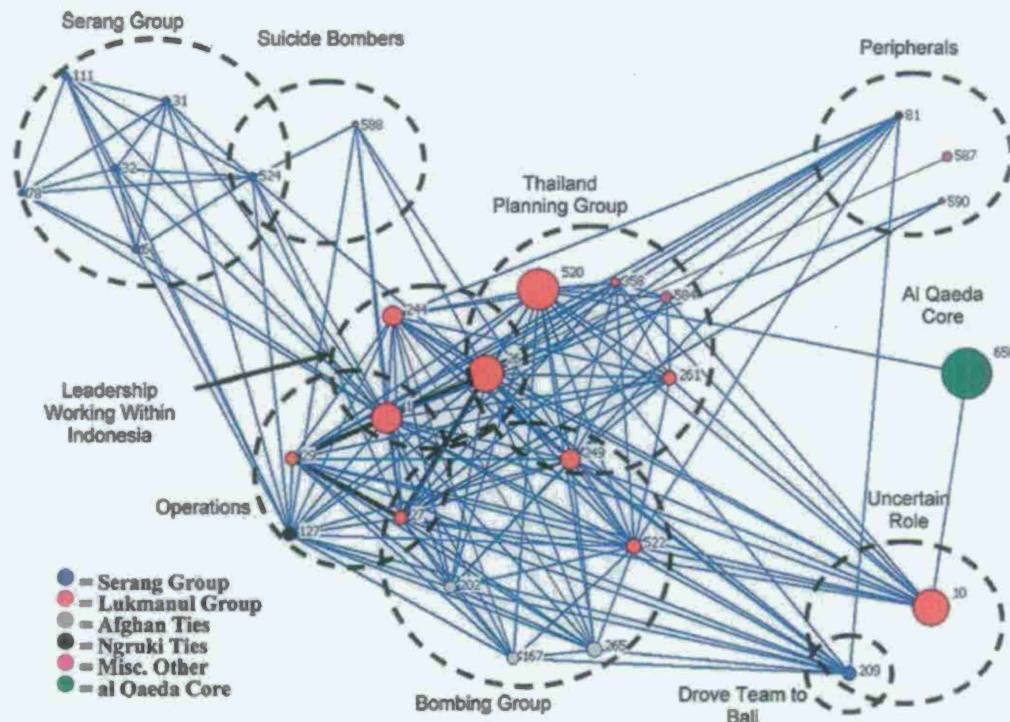
Figure 4. 2002 Bali bombing network.

In Indonesia" groups in Figure 4). Perhaps more importantly, the Bali bombing group is the fruition of all of Hambali's social networking within JI, as well as the fruition of his cultivation of Al Qaeda ties, from the mid-1990s to 2002.

With the series of arrests after the 2002 Bali bombing, the militant minority became an even smaller "club of individuals." With Hambali in hiding in Thailand in 2003 (and later under arrest in August 2003), and his lieutenants, Mukhlas and Faiz Bafana under arrest, Noordin Top, the former head of Lukmanul Hakiem (one of the two most radical JI madrassahs), took over the informal role of attack leader for the radical fringe of the organization. Over the next three years, Top and his partner Azhari Husin, planned and implemented three bombings—the 2003 Marriott bombing, the 2004 Australian Embassy bombing, and the 2005 Bali II bombings. Top proceeded to take the "militant minority" network concept to its logical extreme, utilizing only a handful of JI members for each attack and pulling from other jihadist organizations in Indonesia. The Australian Embassy bombing network is highlighted in Figure 5.[15]

It is quite obvious from Figure 5 that Top is operating outside the general JI leadership network. His only known leadership links for the AE attack were Qotada (250), a Central Command member, and 180, the replacement Mantiqi I leader. The importance of other groups is also clear in Figure 5. KOMPAK, a local charity, and Ring Banten, a radical group affiliated with Darul Islam, were utilized for recruitment, terrorist training, and explosives acquisition, roles traditionally filled by JI leadership and JI members. The overall JI leadership network in 2005 is also highlighted in Figure 6.

From Figure 6, it is apparent that with most leaders either arrested or no longer with the organization, Top's (261) only known links to the formal JI leadership structure were through the two Central Command members, Abu Dujanah (245) and Qotadah (250),

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Figure 5. Australian Embassy attack network—2004.

who is rumored to now be dead), both former Afghanistan training veterans, and through
Zulkarnaen (244).

What can one learn from this study of JI? First, JI developed into a fractured
organization with militants leading the attacks and moderates sidelined to the shadows
of the organization. Counterterrorism officials in Indonesia and Malaysia may be able to
take advantage of this organizational split by appealing to moderate members of JI to "take

Figure 6. Jemaah Islamiyah leadership network—2005.

back" the organization and turn over heretical radicals such as Noordin Top in exchange for amnesty. Second, and more broadly, it underscores the fact that all jihadists are not the same and may be successfully handled in different ways. The majority of JI members were significantly less radical than Hambali, Noordin Top, and their entourage. It might be possible to engage such jihadists politically in the future to see what solutions are attainable via other means rather than mass arrests.

Regardless, it demonstrates that the media focus on Ba'asyir, who was recently released from prison, is misplaced. Ba'asyir was (and remains) an oracular leader. He has had a vitally important role as a social and ideological connector, even during his stint in prison. For instance, he married Urwah (one of the Noordin Top—associated jihadists arrested before the AE bombing) while they were both in prison and presided over a public marriage ceremony on 29 April 2007. However, he has never focused the majority of his leadership efforts on operational attacks[16] and most probably does not have any operational control over the most radical fringe of the organization. In fact, Ba'asyir has spoken out against further attacks, leading the radical members of JI to search for fatwas supporting violent jihad in the face of his opposition.[17] Any focus on Ba'asyir should be on his important role as oracle and social connector.

Radical Madrassah Findings

After 9/11, madrassahs were excoriated in public policy and media circles for breeding terror. This was an overstatement, particularly given that the media focus was on Al Qaeda and madrassahs have had little importance in Al Qaeda's recruitment strategy. Peter Bergen and Swati Pandey responded to this in the *New York Times* and *Foreign Affairs* by arguing that madrassahs were largely irrelevant from a public policy perspective, as they did not teach the tools necessary to create effective terrorists. The problem with this entire debate was that it was largely based on anecdotal case studies.[18]

To rectify this, the authors utilized a combination of aggregate level data and data collected for the GTT Project to examine the issue. Aggregate level data on Indonesian education rates demonstrates that JI-linked radical madrassah attendance was clearly associated with participation in JI terrorist attacks. An ordered logit statistical analysis on jihadists involved in the Bali I, Marriott, and Australian Embassy bombings ($n =$ 75) shows that in general madrassahs were not associated with an individual's role on a terrorist attack. Nonetheless, radical, JI-linked madrassah attendance and association (i.e., teaching, serving as a board member, or simply attending lectures at a radical madrassah) in Indonesia and Malaysia were significantly associated with an increased role on JI terrorist operations.[19]

The focus on attendance *and* association is important because all of the work on madrassahs in the past had focused on top-down ideological indoctrination as the most important service that these schools served. But the authors found that association with one madrassah in particular, Lukmanul Hakiem, was strongly associated with a more important role in terrorist attacks. This explanation received the strongest support from the data, with the coefficient for Lukmanul Hakiem surpassing all other variables in explanatory power. It appears that radical madrassahs serve *two* roles, as key ideological indoctrination/recruitment centers and as focal points[20] within jihadist networks to connect like-minded radicals. The latter finding is a novel explanation for radical madrassah importance and actually lends support to the argument that terrorist networks are often
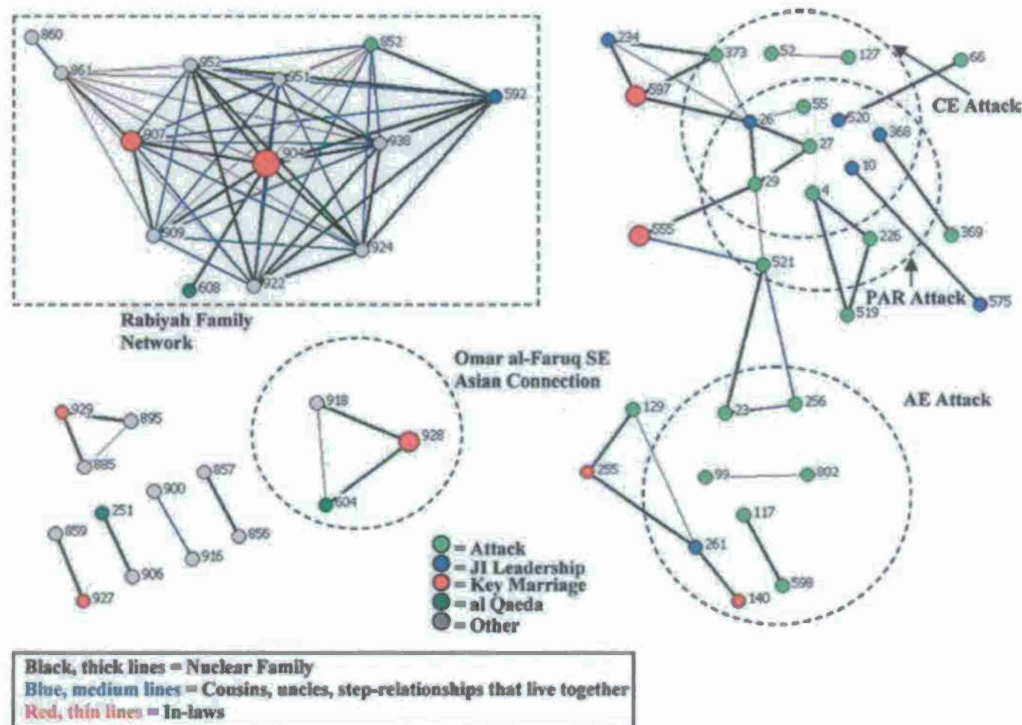
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Figure 7. Southeast Asia kinship ties.

more important than top-down ideological indoctrination and recruitment, the typical mechanisms cited for madrassah influence.

The policy ramification is that analysts need to be careful about making strong proclamations about madrassahs. There is no evidence that madrassahs *in general* produce terrorists, as Bergen and Pandey have noted. Nonetheless, there is evidence that JI-linked radical madrassahs, a small selection of the madrassah population, are associated with both participation in terrorist attacks and role on JI terrorist attacks in Indonesia and Malaysia. Radical madrassahs are an important policy issue that should not be discarded.

Kinship

Kinship networks are the glue that holds radical networks together in Southeast Asia. Our preliminary research shows a vast spectrum of overlapping kin relationships that cut across different groups *within* organizations and even *across* organizations. A social network diagram (Figure 7) provides a brief illustration. In the upper-left-hand side, Rabiyah Hutchinson's (904) family relationships connect various jihadist groups in Australia. She married Abdul Rahim Ayub (592), the head of Mantiqi IV for JI in the 1980s (divorced in 1996) and had four children with him. She married off one of her daughters (907) to 861, a jihadist who was arrested as part of the Pendennis Operation in Australia. After her divorce from Ayub, she married Mustafa Hamid (608), a member of the Al Qaeda Shura, creating a link with the Al Qaeda core.

The middle, left-hand side of the graph shows that Omar al-Faruq (604) cemented ties with a local Darul Islam (DI) radical (918) by marrying his daughter (928), which formed an initial network bond between Al Qaeda and DI. The upper-right-hand side of the graph
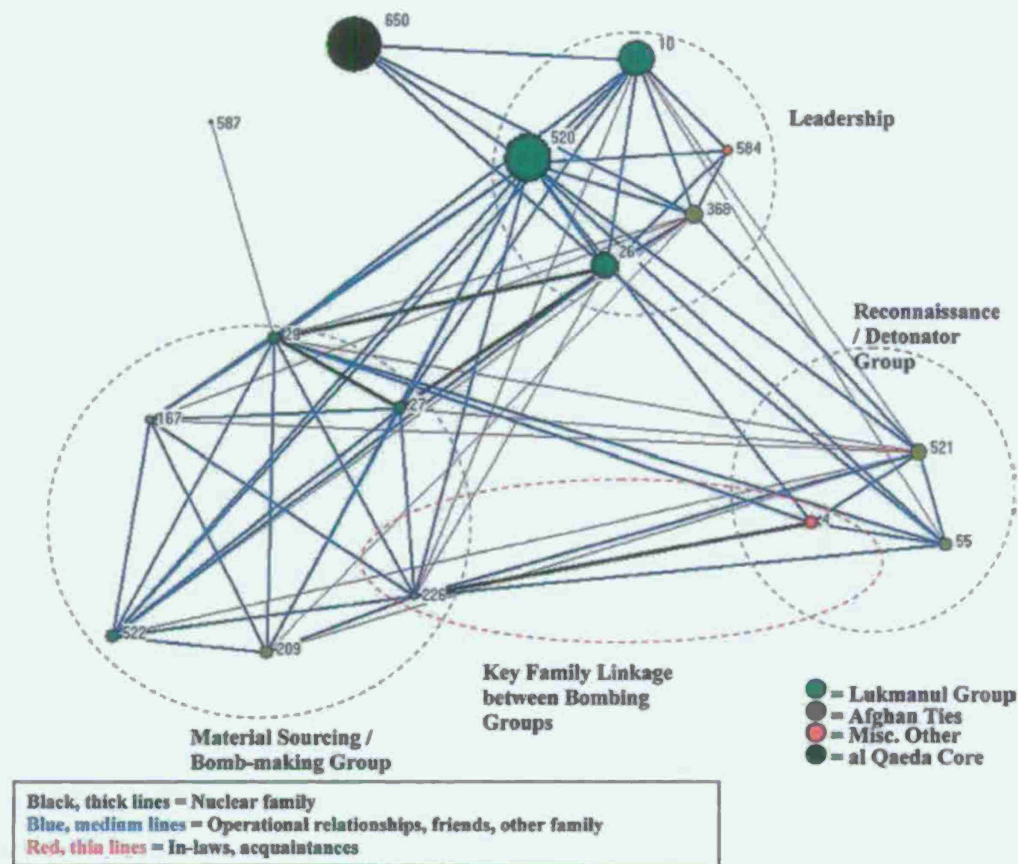
Figure 8. PAR bombing—Farihin (226) and Abdul Jabar (519) linkage.

illustrates Mukhlas's extensive relationships. Mukhlas (26), was the director of the Bali I bombing. His marriage to Nasir Abas's sister (597) cemented ties with Nasir (234), the head of Mantiqi III, and brother Hashim (373). Hashim would later take part in the Christmas Eve (CE) bombings with Mukhlas. Mukhlas (26) and Edi Setiono (55) are in-laws and both worked on the CE and Philippines Ambassador Residence Bombing (PAR) operations together. Mukhlas (26), Ali Imron (27), and Amrozi (29) are brothers and worked on the CE, PAR, and Bali bombings together.

Abdul Jabar (4), Farihin (226), and 519 are brothers. Figure 8 shows that Abdul Jabar and Farihin form the key linkage between different groups on the Philippines Ambassador Residence Bombing. The figure also illustrates the relationships between the brothers, Mukhlas (26), Ali Imron (27), and Amrozi (29).

Moving directly down from Mukhlas (26) on the *Southeast Asia Kinship Ties* graph (Figure 7), one can see that Al Ghozi's (521) family relationships bridge several different attacks. Al Ghozi (521) was a master bombmaker for JI and worked on the PAR bombing, as well as the CE and Rizal Day bombings, and the Singapore plots. Al Ghozi (521) and Amrozi (29) are in-laws and both worked on the PAR bombing together. Al Ghozi (521) and 23 are brothers and 256 is a cousin. 23 and 256 worked together on the Australian Embassy operation. Moving on to the Australian Embassy (AE) bombing relationships, 117 and 598 are brothers that worked together, and 99 and 802 are in-laws that both trained jihadists for the AE operation. Noordin Top (261) cemented relationship with 129 through

marriage to 255 and then worked on the Marriott bombing operation together. Top (261) then married 140 during the AE operation planning. 140 would later hide Top and Azhari (not pictured) before the bombing.

Faiz Bafana (368) and 369 are brothers that worked on the foiled Singapore plots together in 2001. Hambali (520) and 66 are brothers that worked on the Marriott operation together. Finally, 52 and 127 are in-laws that worked on the CE bombing operation together. This is only a brief examination of kin relationships in Southeast Asia. There are probably hundreds of additional relationships that have not come to researchers' attention. Nonetheless, the networks illustrated here demonstrate the importance of kin relationships among terrorist groups, which tend to be increasingly endogamous over time (as friends begin to marry one another's siblings) and so increasingly bound by a trust that is harder for counterterrorism efforts to penetrate or break.

Conclusion and Future Directions

In 2006, the Global Transnational Terrorism project focused on the militant minority of JI, as well as the importance of JI's radical madrassahs and kinship networks in Indonesia and Malaysia. The militant minority study is important because it demonstrates empirically that terrorist organizations are not always unified, hierarchical organizations that remain static over time. Rather, JI started off hierarchical (in the true military sense) and then mutated into a fractured organization with militants leading the attacks and moderates sidelined to the shadows of the organization. Today, JI is decentralized to the extent that analysts are often unsure whether the Central Command of the organization is still running the organization. Individuals like Noordin Top, DulMatin, and Umar Patek have allegedly split off from the organization and are operating on their own in Indonesia and the Philippines. This has important policy ramifications. When addressing present and future groups, analysts must take note of empirical realities rather than relying on standard assumptions about terrorist group organization. In the case of JI, by focusing on empirical realities, they have a better chance for intervention and prevention "from the bottom up" rather than "from the top down." Similarly, the madrassah analysis demonstrates that the "madrassah issue" is more complicated than previously thought. Analysts need to be careful about making strong proclamations about madrassahs, as there is no evidence that madrassahs *in general* produce terrorists. Nonetheless, there is evidence that JI-linked radical madrassahs, a small selection of the madrassah population in Indonesia and Malaysia, are associated with both participation in JI terrorist attacks and role on JI terrorist attacks. Finally, the brief focus on kinship demonstrates that key parts of JI's networks are increasingly family-oriented. These overlapping kin relationships cut across different groups *within* organizations and even *across* organizations. As organizations like JI continue to decentralize and splinter, kin relationships provide the glue that holds these groups together. This will make continuing efforts to penetrate or break apart these networks more difficult in the future.

The Global Transnational Terrorism project is scheduled to continue through 2008, with an upcoming focus on European jihadist networks. The analytic focus will turn to network resiliency, network decentralization, leaderless resistance, and radical madrassah indoctrination. The long-term goal of the GTT project is to provide a public, open-source database to understand how transnational terrorist networks evolve in order to answer questions such as: How do terrorists become radicalized? What motivates them? Who supports them? Who among them is the most liable to defect? Many lives could depend on it.

Notes

1. Taken from Marc Sageman, *Understanding Terror Networks* (Philadelphia: University of Pennsylvania Press, 2004).

2. Scott Atran and Marc Sageman, "Connecting the Dots," *Bulletin of the Atomic Scientists* 62(04)(2006).

3. Sally Neighbour, *In the Shadow of Swords: On the Trail of Terrorism from Afghanistan to Australia* (Sydney: HarperCollins Publishers, 2004), 297–300.

4. The term moderate is used relative to the reference point of Hambali and his Al Qaeda funders. The moderate majority members generally objected to killing innocent civilians through terrorist attacks. This objection stemmed from various reasons such as (1) moral opposition, (2) religious disagreement as to the justification of attacking civilians (i.e., not legitimate targets of jihad), and (3) organizational reasons (they opposed Hambali's decision to carry out bombings outside of his territorial domain). However, most moderate majority members were completely supportive of using violence against Christians in "jihad" areas such as Poso or Ambon. Hence, "moderate" should not be mistaken for "peaceful." Thanks to Sidney Jones for pointing this out.

5. See Zachary Abuza, *Militant Islam in Southeast Asia: Crucible of Terror* (Boulder, CO: Lynne Rienner Publishers, 2003); Zachary Abuza, "The War on Terrorism in Southeast Asia," in Richard J. Ellings and Aaron L. Friedberg, eds., *Strategic Asia 2003–2004: Fragility and Crisis* (Seattle, WA: The National Bureau of Asian Research, 2003), 321–361; Ken Conboy, *The Second Front* (Jakarta: Equinox Publishing, 2006) for overviews of Jemaah Islamiyah and terrorism in Southeast Asia.

6. See Conboy, *The Second Front*, for an excellent and comprehensive overview of JI bombings.

7. See Singapore Ministry of Home Affairs, "The Jemaah Islamiyah Arrests and the Threat of Terrorism" (Ministry of Home Affairs: Singapore, 2003).

8. See "'Jack of all Trades—Master of None', Jemaah Islamiyah, Mantiqi IV, Perth, Australia," presented by Chris Dawson, Deputy Commissioner of Western Australia Police to the Critical Incident Analysis Group, Charlottesville VA, 2 April 2007. Also, personal communication between Chris Dawson and Scott Atran at CIAG.

9. See Scott Atran, "Jihad and Back," *Foreign Policy* (November/December 2005), pp. 78–80. Personal communication between Nasir bin Abas and Scott Atran, Jakarta, Indonesia, August 2005.

10. See International Crisis Group, 2003, "Jemaah Islamiyah in Southeast Asia" for more detail.

11. See Neighbour, *In the Shadow of Swords,* for a more detailed historical study.

12. See ibid., p. 313.

13. There are various sources for this including the testimony of Ali Imron at the Bali I trial proceedings.

14. Ken Ward, personal communication, August 2006. Based on interview with Nasir Abas.

15. See International Crisis Group, "Terrorism in Indonesia: Noordin's Networks," Asia Report No. 114 (2006) for a comprehensive examination of Top's network for the Marriott, Australian Embassy, and Bali II bombings.

16. Ba'asyir did have operational input on JI bombings; however, it was not his main leadership focus. For instance, he approved the Christmas Eve bombings, as well as the Philippines Ambassador Residence (PAR) bombing. He also initially approved the Israeli Embassy bombing plans of Jack Roche (and then later called the plan off). See Dawson, "'Jack of all Trades—Master of None,'" for the Jack Roche plot and Conboy, *The Second Front*, for the PAR and Christmas Eve bombings.

17. Ubeid, one of Noordin Top's assistants, was initially given the task of finding fatwas supporting violent jihad. With his arrest, this task has passed to others, who now also sponsor Indonesian jihadi websites such as (http://www.alqoidun.net/), where a typical headline (accessed 23 April 2007) reads: "Mulla Umar Mendorong Mujahidin Memperbanyak Lagi Serangan Istisyhadiyah" ("Mullah Omar encourages mujahedin to undertake more martyrdom operations").

18. A good start for the madrassah debate is the work of Peter Bergen and Swati Pandey. See Peter Bergen and Swati Pandey, "The Madrassa Myth," *The New York Times*, 14 June 2005 and Peter Bergen and Swati Pandey, "The Madrassa Scapegoat," *The Washington Quarterly* 29(2) (2006),

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pp. 117–125. See also Alexander Evans, "Understanding Madrasahs: How Threatening Are They?" *Foreign Affairs* 85(1) (2006), pp. 9–16. Finally, see International Crisis Group, "Al Qaeda in Southeast Asia: The Case of the 'Ngruki Network' in Indonesia," Indonesia Briefing (August 2002), pp. 1–24, for an examination of the Ngruki school.

19. See Justin Magouirk, Dissertation: *Manufacturing Hate: Three Perspectives on Terrorist Motivations and Strategies* (Ann Arbor, MI: ProQuest, 2006), chapter 4 for the actual statistical work.

20. It is very possible that other organizations may serve as focal points for radicals in addition to madrassahs. Nonetheless, Lukmanul Hakiem was particularly important because it was the "Command Center" for JI during the mid to late 1990s.

Routledge
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Connecting a Thousand Points of Hatred[1]

JUSTIN MAGOUIRK

University of Michigan
Ann Arbor, Michigan, USA

This article addresses a key debate within the terrorism literature—the relative importance of madrassahs for training terrorists. It argues that the two contending positions—madrassahs are not important for recruitment of terrorists and madrassahs are breeding grounds for terror are both overstated. Using a dataset constructed from Jemaah Islamiyah (JI) members, the author finds that JI-linked radical madrassah exposure is strongly associated with terrorist activity and is associated with more important roles on terrorist operations in Indonesia. The article argues that traditional scholarly theories and public debates on the importance of madrassahs are misguided because they only address top-down ideological indoctrination. The author's theory is that radical madrassahs provide a staging ground for both top-down recruitment and the creation of focal points that lead to tight knit social networks that radicalize members. In effect, they provide a "ready-made social network" for males, "give religious and ideological focus" to these groups, and provide a "particular action-oriented focus."

Overview

The terrorism[2] literature is plagued by numerous ongoing debates with no empirical resolution. One such debate involves the relative importance of madrassahs, or Islamic boarding schools, for training terrorists. After 9/11, madrassahs were excoriated in public policy and media circles for breeding terror. This was an overstatement, particularly given that the focus was on Al Qaeda. Madrassahs have had little importance in Al Qaeda's recruitment strategy. Peter Bergen has written numerous articles touting this position.[3] Marc Sageman outlines this position in his book.[4] In a recent article in *Foreign Affairs*, Alexander Evans makes a similar argument.[5] Unfortunately Bergen in particular has generalized his findings too far, arguing that madrassahs are not important in general for terrorism. The overall problem with this debate is that it is mostly pontification with no real data beyond anecdotal cases.

This article aims to clarify this debate by running a preliminary, relatively large-N statistical analysis to address the links between radical madrassah education and attacks in Indonesia and Malaysia. It defines a radical madrassah as an Islamic school that advocates violence in any form, be it terrorism or violent *jihad*. This analysis focuses on Jemaah Islamiyah (JI) and its series of attacks in Indonesia from 2002–2004.[6] The article demonstrates that exposure to JI-linked[7] radical madrassahs is associated with one's proclivity to become a violent jihadist and to take a more significant role in an attack. To do this the article uses an aggregate data analysis and an ordered logit statistical analysis that draws on a year-long data collection project that utilized American, Indonesian, British, and Australian researchers.

Background and Theory

Overview

After 9/11 (and then again after the 2005 London Underground bombings), there was a furor over madrassahs, with the common denominator being that madrassahs were breeding terrorists, which then attacked the United States and its allies.[8] Peter Bergen and Swati Pandey rejected this viewpoint and argued that, "While madrassa[h]s may breed fundamentalists who have learned to recite the Koran in Arabic by rote, such schools do not teach the technical or linguistic skills necessary to be an effective terrorist."[9] Overall, Bergen and Pandey have argued that madrassahs are less relevant from a policy perspective.

> While madrassa[h]s are an important issue in education and development in the Muslim world, they are not and should not be considered a threat to the United States. The tens of millions of dollars spent every year by the United States through the State Department, the Middle East Partnership Initiative, and the Agency for International Development to improve education and literacy in the Middle East and South Asia should be applauded as the development aid it is and not as the counterterrorism effort it cannot be.[10]

Marc Sageman examines the madrassah question slightly differently and argues that top-down recruitment (from madrassahs in particular) and social networks are largely substitutes and that tight-knit kin and friendship networks are much more important than top-down recruitment. Sageman finds that mobilization by Al Qaeda elites was less important in recruitment and that weak ties between small, close-knit social networks and representatives of the global Salafi[11] movement were the most important factor in explaining the variance of who became a terrorist and who did not. Specifically, groups of friends who joined the global Salafi movement were often radicalized through their intense social and kin-based friendships and lack of ties outside of these social networks.[12]

Alexander Evans argues that madrassahs are extremely diverse, with radical madrassahs comprising only a small percentage of the overall madrassah population. He also argues that madrassahs serve an extremely important purpose. "For many orphans and the rural poor, madrassahs provide essential social services: education and lodging for children who otherwise could well find themselves the victims of forced labor, sex trafficking, or other abuse."[13]

Gaps in Existing Research

All of these arguments have merit. The problem with Bergen and Pandey's argument is that it is focused largely on Al Qaeda operations and is simply less applicable to parts of Southeast Asia, where madrassahs like Ngruki, Dar us-Syahadah, and al-Islam in Indonesia and Lukmanul Hakiem in Malaysia have been extremely important.[14] Only one of the five cases (Bali) they address involves Southeast Asia and their treatment of the Bali case is cursory at best. They note that madrassah education was important for the Bali attack in 2002; however, they incorrectly argue that the madrassah graduates were paired with university graduates who were the *true* masterminds of the bombing. Specifically, they argue that Azhari, Zulkarnaen, and Noordin Top (all JI members who attended universities) were the masterminds for the Bali attack.[15] This is in fact incorrect. The core planners were Mukhlas and Imam Samudra, both of whom either attended, taught at, or were associated with radical madrassahs.[16] This is important because it negates part of Bergen and Pandey's claim that we must eliminate the "assumption that madrassas produce terrorists capable of carrying out major attacks" in order to "shape more effective policies to ensure national security."[17] Bergen and Pandey also ignore the fact that madrassahs may serve other roles beyond ideological indoctrination of young males. As this article demonstrates shortly, this is only one of at least two roles that madrassahs can serve.

Marc Sageman's analysis is path-breaking because it is one of the first attempts to gather data and utilize social network theory to analyze terrorist groups and make policy recommendations. However, it is based on Al Qaeda activities through 2002 and does not necessarily extend to Jemaah Islamiyah in Southeast Asia. As such it should not be viewed as wrong, but rather incomplete. Similar to Bergen, Sageman views madrassahs only through the lens of top down recruitment and ideological indoctrination. Finally, although Evans deflates many myths about madrassahs, it still remains true that a small percentage of madrassahs are creating problems for the United States and its allies by producing terrorists. Addressing the positive aspects of madrassahs does not negate the potentially detrimental effects.

New Directions

This article argues that the two contending positions—madrassahs are not important for recruitment/networking of terrorists *and* madrassahs in general are breeding grounds of terror—are both overstated. *Radical* madrassahs provide the perfect environment for isolated tight knit friendship networks to form. Individuals are rooted in extremist teachings and are isolated from most of their family and previous friendships so that these teachings can take hold amid groups of individuals of the same age and background.[18] This is true regardless of whether the individuals in question are impressionable students or hardened radicals who are simply associated with the radical madrassah.

This article argues that the common proclivity to think about radical madrassahs only in terms of ideological indoctrination and top-down recruitment is wrong. Radical madrassahs serve multiple purposes—their most important role may actually be as a focal point or rest station for like-minded radicals. The problem for isolated radicals is that they do not have connections to people who can put their intense hatred to use. A radical madrassah that serves as a focal point allows these radicals to get connected with individuals like Hambali, the former "CEO" of JI, who have the ability to provide them with money, weapons, and tactical plans to actually operationalize their hatred. Marc Sageman has argued that there is an abundance of radicals that yearn to become violent jihadists. Fortunately these individuals are often unconnected to larger networks that can provide them an outlet for

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Table 1
Madrassah typology

Madrassah Type	Recruitment into Terrorist Organization	Focal Point for Radical Jihadists	Ideological Indoctrination
Moderate	No	Unlikely	Maybe
Radical	Yes	Yes	Yes

their hatred. Sageman saw radical madrassahs as a substitute for social networks—basically as a top-down recruitment method. However, the present author thinks radical madrassahs' most important role is to connect "a thousand points of hatred" into a discernable network that can be mobilized. Mobilization and social networks are complements.

The author's theory is that *radical* madrassahs provide a staging ground for *both* recruitment and the creation of focal points that lead to tight knit social networks that radicalize members. In effect, they provide a "ready-made social network" for males, "give religious and ideological focus" to these groups, and provide a "particular action-oriented focus," as Scott Atran has noted (Private communication, Ann Arbor, 2006). The fact that these radical madrassahs have links to terrorist and/or extremist leaders allows them to provide an outlet for hardened jihadists (for example those individuals that have already undergone jihadist training in Afghanistan/Philippines) and links to militant training for other students, key points that Bergen and Pandey miss in their analysis.[19] Moderate madrassahs do not have the action-oriented jihadist focus that is unique to radical madrassahs. As such they should have little importance in the ongoing manufacture of radical jihadists. This article hypothesizes that radical madrassah attendance and association are strongly associated with an individual's propensity to take part in a terrorist operation *and* an individual's propensity to take on a more important role on an operation.

Table 1 outlines an analysis of the difference between radical and moderate madrassahs.

Data and Methodology

To address the madrassah question, the author collected a dataset of JI jihadists that took part in JI attacks from 2002 to 2004.[20] The author focused on JI for convenience, as he has data for multiple JI attacks. The limited scope of generalizability will be addressed later in the article. The dataset includes the jihadist's role in the attack,[21] age, ethnicity (Javanese, non-Javanese), education level,[22] occupation (unskilled, skilled), organizational role (foot soldier, leader), JI-linked radical madrassah attendance (dummy), JI-linked radical madrassah association[23] (dummy), and military/terrorist training. The jihadists documented in the dataset[24] are culled from the 2002 Bali I attack,[25] the 2003 Marriott Hotel attack,[26] and the 2004 Australian embassy attack.[27] This results in an $n = 75$ jihadists. The database consists of individuals that fulfilled any of the 4 roles outlined earlier—minor role, moderate role, major role, and complete commitment (see note 24 for detail)—for the aforementioned bombings. As such, this article cannot compare general population members who are not involved with these bombings with the jihadists that are involved, except through the use of aggregate statistics. However, because the database includes a diverse array of individuals—from the explicit bombmakers and suicide bombers to people who provided only minor assistance (i.e., accessories), one can look at how JI-linked radical madrassah attendance and association affect one's willingness to pursue more direct and more violent

forms of *jihad*. There is quite a difference between building the bomb used to blow up the Marriott Hotel in Jakarta and providing safe refuge for a bomber who one might have known from childhood or from schooling.

In order to operationalize the madrassah variable, it is important to both define it and provide context for it in Indonesia. There are two kinds of schools in Indonesia that provide explicit religious education. The first is an "Islamic day school" administered by the state and is called madrassah *negeri*. The latter, dubbed *pesantren*, is privately funded and administered and has no explicit ties to and very little oversight by the state. For the purposes of this analysis, madrassahs include both Islamic day schools and *pesantrens*. Radical madrassahs are *pesantrens* that advocate violence in any form, be it terrorism or violent *jihad*. Due to data collection issues, radical madrassahs are operationalized here as *pesantrens* that have linkages to JI, of which there are approximately eighteen— Ngruki, Lukmanul Hakiem, Dar us-Syahadah, al-Islam, al Muttaqin in Jepara, al-Hussein, al-Istiqomah, Ibnul Qoyyim, al-Muttaqien, al-Hikmah, Haji Miskin, at-Tarbiyah, Darul Fitroh, Baitussalam, al-Ikhlas, Bekonang, Imam Syuhudo, and al-Furqon.[28] Only the first six show up among the attackers in this analysis.

One potential critique is that this creates a tautology (JI-linked madrassahs and JI attacks) and subsequently extreme selection effects. The author believes this is incorrect for two reasons. First, the connection between JI attack participation and attendance or association at a JI school is not implicit in the existing terrorism literature. Based on the work of Bergen and Pandey and others outlined earlier, the author would not expect *any* relationship between madrassahs and terrorism, irrespective of whether the madrassah is linked with JI or another organization. For instance, Bergen and Pandey do not specify that only madrassahs associated with terrorist groups will be important. Nor do they make any comments about terrorist groups recruiting from their own madrassahs. Rather, they simply note that madrassahs do not teach the skills that jihadists would need to become terrorists. In fact they even state that one must eliminate the "assumption that madrassa[h]s produce terrorists capable of carrying out major attacks" in order to "shape more effective policies to ensure national security." Thus, based on their analysis, any linkage between madrassahs and violence is an unexpected and important discovery. From an organizational perspective, it makes sense that JI would recruit most heavily from its own madrassahs, as the leadership would be more likely to trust jihadists that had trained under its own curriculum. However, JI could easily recruit from a plethora of key associations such as Afghan and Philippines training ties, kinship ties, marriage ties, and other Islamic association ties. Furthermore, the key statistical argument for this article— the fact that radical madrassah attendees and associates are more likely to take on an important role on a bombing operation—is not at all derived from a tautology, as marriage, kin, Islamic association, and Afghan and training ties are equally likely to produce similar results. In fact, Afghan and Philippines training would be more likely to produce capable terrorists (and hence explain away all statistical variation for other variables like madrassah attendance) based on Bergen and Pandey's own arguments, as trainees would actually learn the bombmaking and operational skills necessary to become terrorists.

Secondly, the study does not include other madrassahs networks such as the numerous Hidayatullah or Darul Islam schools in Indonesia because the author does not have credible and comprehensive data on their attendance records. If these schools were included it would no doubt create even more problematic selection effects (due to bad data), even if it facilitated the analysis by increasing the number of "key" jihadists (i.e., those that played important roles on operations) that had attended radical madrassahs.[29] Overall, the focus on JI-linked madrassahs ensures that the data are stronger at the expense of generality.

However, as a result, the author does not claim that this analysis implies that all radical madrassahs are associated with terrorism. Rather, this article will argue that *JI-linked* radical madrassahs in Indonesia and Malaysia are associated with terrorism.

The questions this article is interested in answering are multifaceted: (A) How important are JI-linked radical madrassahs in general for JI's terrorist attacks? Is there a significant difference between the general population's JI-linked radical madrassah attendance rates and JI jihadist attendance rates? (B) Is JI-linked radical madrassah attendance associated with the role one has on a terrorist operation? Is JI-linked radical madrassah attendance more strongly associated with role than moderate madrassah attendance? (C) Is it just JI-linked radical madrassah attendance or also JI-linked radical madrassah *association* that is correlated with attack role? Is association with certain radical madrassahs more important than others in affecting one's roles on attacks[30] ? For each of these questions, the data preclude direct examination of mechanism, hence the explicit "association" wording. As such, this article can only address associations empirically and speculate on potential mechanisms.

For question set A, the article uses aggregate statistics culled from the Indonesian government to demonstrate that the radical madrassah attendance rates of JI violent jihadists are significantly greater than the rates of the general population. For the violent jihadist data, the study pools the three terror attacks—Bali I in 2002 ($n = 41$ participants), Marriott in 2003 ($n = 17$ participants), and the Australian embassy in 2004 ($n = 25$ participants) to obtain overall radical madrassah attendance rates.[31] The article demonstrates a significant association between JI-linked radical madrassah attendance and terrorism but does not identify the mechanism behind this association. This is reserved for later research when the appropriate data is available.

H_1: The JI-linked radical madrassah attendance rates of those who took part in the Bali I, Marriott Hotel, and Australian Embassy bombings are significantly greater than the attendance rates of the overall population.

For question sets B and C, the ordered logit equation that follows is used. To examine this question, the three terror attacks were pooled—Bali I, Marriott, and the Australian embassy—and the highest role that one played during the course of these operations is identified. An ordered logit is then used to analyze them. This ensures that there are fewer selection effects associated with a person being arrested or killed and taking part in only one operation.[32] Pooling observations also results in a larger N than analyzing each attack separately. This is important because analyzing individual terrorist attacks suffers from too few degrees of freedom to complete reliable analyses due to the small number of operatives in each attack. The only other alternative to a pooled ordered logit analysis would be a repeated measures analysis where each terror attack participation date by a given jihadist is treated as a single data point, resulting in multiple data points for many individuals and more data and potentially more robust standard errors for the analysis as a whole. Unfortunately, only six individuals have independent involvement in multiple attacks, which renders such an analysis useless.

In Equation 1, the dependent variable p represents the probability that a person takes a more direct role. Direct role implies that an individual is more likely to move from simple network facilitation and harboring to a role in making the bomb, handling logistics, recruiting, and so on (see note 24 for exact details on role). The only variable that changes

from one regression to another is the definition of "Madrassah Exposure."

$$p = \beta_1 \text{ Madrassah exposure}(\text{No} = 0; \text{Yes} = 1) + \beta_2 \text{ Education level}(0 = \text{No HS}; 1 = \text{Some HS}; 2 = \text{HS Grad}; 3 = \text{Some college}; 4 = \text{Bachelor's}; 5 = \text{Some Graduate} 6 = \text{Graduate degree}) + \beta_3 \text{ Occupation Type}(0 = \text{Unskilled}; 1 = \text{skilled}) + \beta_4 \text{ Ethnicity } (0 = \text{Non} - \text{Javanese}; 1 = \text{Javanese}) + \beta_5 \text{ Leadership Role}(0 = \text{Foot soldier}; 1 = \text{Leader}) + \beta_6 \text{ Age} + \beta_7 \text{ Afghan Training}(0 = \text{No}; 1 = \text{Yes}) + \beta_8 \text{ Other Training}(0 = \text{No}; 1 = \text{Yes}) + \alpha \text{ (constant)}.$$

$$(1)$$

Question set B addresses whether or not madrassah *attendance* is associated with individuals' roles in an operation. Specifically, these questions examine whether or not it is attendance at *any* madrassah that is associated with increased role or if it is only JI-linked *radical* madrassah attendance that is associated with increased role.

> H_2: General madrassah attendance is not significantly associated with a more direct role in a terrorist activity.
> H_3: JI-linked radical madrassah attendance is positively associated with a more direct role in a terrorist activity.

Question set C examines the focal point idea outlined earlier. As such it examines whether or not JI-linked radical madrassah association is correlated with role on a terrorist attack. A positive, statistically significant result here would provide some evidence that analysts are incorrect in examining madrassahs solely through the lens of ideological indoctrination of young students. The reason is that it would show that mere association (a much *broader* form of exposure than attendance given that it also includes individuals who taught at, were board members at, or simply attended lectures/sermons at the radical madrassah) is correlated with a role in terrorist attacks. As such, the traditional ideological indoctrination of youth explanation (which is tied to attendance) would provide only *part* of the explanation.

> H_4: JI-linked radical madrassah association is positively correlated with a more direct role in a terrorist activity.

It is important to address whether or not certain radical madrassahs are more important than others. Specifically, the author would like to address whether or not association with Lukmanul Hakiem is correlated with a more direct role on terrorist bombings. Lukmanul Hakiem, a radical madrassah in Malaysia, was the center of JI activity in the 1990s.[33] It was here that Southeast Asian radicals gathered after their training in Afghanistan in the late 1980s and early 1990s. It was also here that individuals were radicalized under the tutelage of JI's founder, Abdullah Sungkar.

> H_5: Lukmanul Hakiem association is positively correlated with a more direct role in a terrorist activity.

Concerns—Other Selection Effects

There are other jihadists that potentially took part in the Bali, Marriott, and Australian embassy attacks, for which the author has no data.[34] Similarly, there are jihadists who harbored bombers but were not arrested/identified. This is a problem with all individual-based, large-N terrorism analyses and stems from the fact that terrorist organizations are inherently clandestine. Fortunately, documentation on the attacks from 2002–2004 attacks

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Table 2
Data on JI-linked Madrassahs[58]

School	Foundation Date	Closure Date	Years Through 2004	Max # of Students Per Year	Total
Lukmanul Hakiem	1991	2002	12	450	5,400
Al-Mukmin	1971	NA	34	1,800	61,200
al-Islam	1992	NA	13	150	1,950
Darusysyahada	1995	NA	10	385	3,850
al-Muttaqien	1995	NA	10	1,000	10,000
Total					82,400
Average per Madrassah					16,480
Standard Deviation					25,176

are quite good based on police interrogation reports, court testimonies, International Crisis Group reports, and interviews with former JI members such as Nasir Abas, the former leader of Mantiqi III and Farihin (Yasir), a participant in the Philippines Ambassador Residence bombing.[35] With these caveats in mind, the statistical analysis that follows should be treated as a preliminary step in quantitative terrorism studies rather than an emphatic declaration of certainty.

Results

Question Set A—General Significance

As noted before, this article can only address the differences between the JI-linked radical madrassah attendance rates of the Bali, Marriott, and Australian embassy bombers and the general population using aggregate information, given that the database only includes individuals that have taken part in these terrorist operations. The aggregate data is derived from two sources. Data about the general Indonesian educational background for the population is derived from the Indonesian government.[36] Data on JI-linked radical madrassah education for the population (which is not tracked by the Indonesian government) is derived from Ken Ward, a former Australian intelligence analyst, and Noor Huda Ismael, a *Washington Post* journalist and former graduate of the Ngruki school. Both have visited madrassahs throughout Indonesia, interviewed teachers and former students, and gathered a significant amount of data on individual schools. They utilized a combination of Indonesian language sources and personal interviews to create estimates of attendance rates.[37]

For the current database sample, 37 of the 75 jihadists attended a JI-linked radical madrassah—an attendance rate of 49.3%. For the general population, the calculations are slightly more difficult. There are 18 radical madrassahs that are implicitly linked with JI.[38] Of these 18 radical madrassahs, the author has institutional foundation and attendance rates for five. Table 2 details the information for these five madrassahs.

Using Table 2 and aggregate Indonesian education statistics, the author calculated that the JI-linked, radical madrassah attendance rate for the general population ranged between 1% at the mean and 2.6% at one standard deviation.[39] This is significantly different (19 times less) than the JI-linked radical madrassah attendance rate (49.3%) of individuals

involved in terrorist operations.[40] At 12 standard deviations (the complete upper bound of the analysis based on the maximum number of people that could be educated at private madrassahs), the population rate is 19.9%, which falls well short of the 49.3% threshold of the violent jihadist sample. As such, it is safe to state that the Bali, Marriott, and Australian embassy bombers' JI-linked radical madrassah attendance rates are significantly greater than that of the general population (see note 58).

Question Set B—Madrassah Attendance and Role

The second hypothesis is *that general madrassah attendance is not significantly associated with a more direct role in a terrorist operation.* The results are detailed in Table 3. As predicted, general madrassah attendance (not controlling for type of madrassah) is not *significantly* associated with an individual taking a more direct role in the terrorist operation. The sign on the coefficient is positive; however, it does not reach the trend (.1) level of significance. Table 4 illustrates the marginal effects of each variable with all other variables held constant. Madrassah attendance is associated with a decrease in one's chance of engaging in low levels of involvement (15.5% decrease for Level 1 and.75% decrease on Level 2) and is associated with an increase in one's chance of taking a greater role (11.7% for Level 3 and 4.5% for Level 4).[41]

Cleary the results are mixed for general madrassah attendance. It is associated with a greater role, which contradicts the author's theory, but one cannot be certain that this effect is valid given its lack of significance. The lack of significance is not surprising given that the dataset is quite small. The general madrassah variable, which examines attendance irrespective of moderate or radical inclination, is weighted more heavily toward radical madrassah attendance. Per the tabular statistics in the Appendix, 37 of the 49 general madrassah participants attended radical madrassahs—only 12 of the 49 attended moderate madrassahs. Future work that examines a greater number of attacks will hopefully provide greater variation in the general madrassah variable, and hence more definitive results. It is predicted that future tests will demonstrate a weak relationship as the majority of madrassahs in Indonesia are moderate and state run with standardized curriculums. The type of religious indoctrination that might lead to radicalization is most often noticeably absent from such institutions as they are heavily regulated by the government.[42] This result highlights the fact that more analysis is needed before analysts and policymakers make broad claims about madrassahs in general.

As expected, Afghan training and other training (Philippines training as well as training in Indonesia) are positively and significantly associated with an increased role in terrorist operations. The marginal effects (Table 4) clearly demonstrate that training is associated with a decrease in the probability that one engages in low levels of involvement and an increase in the probability that one takes on a greater role in an operation. This probably results from the fact that militants trained in bombmaking, weapons use, and tactical operations have a greater skill set and are more likely to be given important roles. Javanese ethnicity is, surprisingly, negatively correlated with role and significant. Table 4 demonstrates that Javanese ethnicity is associated with an increase in one's chance of engaging in a lower role by 31.6% and 9.5%, respectively, for Levels 1 and 2 and a decrease in one's probability of engaging in a more direct role by 26.3% and 14.8%, respectively, for Level 3 and 4. This probably stems from the fact that although the Javanese are well represented in the JI Central Command, they are also much more likely to take on supporting roles for JI. For example, Javanese networks are vitally important for harboring bombers

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Table 3
Ordered logit results for madrassah exposure analysis

	General Madrassah Attendance		Radical Madrassah Attendance		Radical Madrassah Association		Lukmanul Hakiemm Association	
	Beta	SE	Beta	SE	Beta	SE	Beta	SE
Madrassah Attendance	0.81	0.53						
Radical Madrassah Attendance			*1.09	0.53				
Radical Madrassah Association					+0.82	0.50		
Lukmanul Hakiem Association							*1.56	0.67
Education Level	−0.12	0.23	−0.10	0.23	−0.12	0.23	−0.08	0.23
Age	0.04	0.03	0.05	0.03	0.04	0.03	0.01	0.03
Occupation	0.74	0.99	0.87	1.02	0.69	1.01	0.35	0.96
Leadership	−0.82	0.71	−0.84	0.70	−0.81	0.70	−0.69	0.70
Afghan Training	*1.58	0.66	**1.88	0.67	*1.6	0.66	*1.41	0.66
Other Training	**2.04	0.52	**1.99	0.51	**1.89	0.50	**1.57	0.51
Javanese Ethnicity	**−1.92	0.52	**−2.12	0.54	**−1.88	0.51	**−1.50	0.50

+Trend at the .1 level; *Significant at the .05 level; **Significant at the .01 level.

before and after their attacks, which predominately take place in Java. Secondly, Malaysians were more likely to be from Mantiqi I (covering Malaysia and Singapore), and leaders from Mantiqi I were responsible for all of the JI attacks from 2000–2004 in all regions. This explains their high level of representation among important attack roles.

The third hypothesis is that JI-linked radical madrassah attendance is strongly associated with an increased role in a terrorist bombing. To address this, the study again pools observations and utilizes the same control variables. The results in Table 3 and 4 provide preliminary support of the hypothesis. Table 3 demonstrates that JI-linked radical madrassah attendance is clearly associated with a more direct role in terrorist attacks and is significant at the .05 level.[43] Afghan and other training are again strongly associated with increased role and significant and Javanese ethnicity is negatively correlated and significant. Table 4 shows that JI-linked radical madrassah attendance is associated with a decrease in one's probability of Level 1 and Level 2 involvement (−19.5 and −3.1%) and an increase in one's probability of Level 3 and Level 4 involvement (16.2 and 6.4%).[44]

Question Set C—Radical Madrassah Association and Role

The fourth hypothesis is that JI-linked radical madrassah association is strongly associated with an increased role on a terrorist bombing relative to someone who has not been

Table 4
Marginal effects for ordered logit analysis

Marginal Effects	Level 1	Level 2	Levels	Level 4
General Madrassah Attendance				
Madrassah Attendance	−15.51%	−0.75%	11.73%	4.54%
Afghan Training	−23.01%	−13.16%	22.03%	14.14%
Non-Afghan Training	−35.16%	−7.06%	27.58%	14.64%
Javanese Ethnicity	31.63%	9.46%	−26.33%	−14.77%
Radical Madrassah Attendance				
Radical Madrassah Attendance	−19.49%	−3.13%	16.21%	6.41%
Afghan Training	−26.11%	−16.35%	25.63%	16.83%
Non-Afghan Training	−34.24%	−6.59%	27.65%	13.17%
Javanese Ethnicity	34.35%	10.18%	−28.97%	−15.56%
Radical Madrassah Association				
Radical Madrassah Association	−15.50%	−1.20%	12.08%	4.62%
Afghan Training	−23.20%	−13.36%	22.49%	14.07%
Non-Afghan Training	−32.73%	−6.63%	26.30%	13.06%
Javanese Ethnicity	31.05%	9.26%	−26.22%	−14.09%
Lukmanul Hakiem Association				
Lukmanul Hakiem Association	−21.35%	−14.84%	23.27%	12.92%
Afghan Training	−20.18%	−12.28%	21.62%	10.83%
Non-Afghan Training	−26.60%	−6.80%	23.83%	9.57%
Javanese Ethnicity	24.41%	8.34%	−23.03%	−9.72%

associated with a radical madrassah. This addresses the "focal point theory" outlined earlier—madrassahs may be important as a focal point to draw like-minded radicals together and to link them with the money, tools, and training to operationalize their radicalism. To address this, the study again pools observations and utilizes the same control variables. The results in Tables 3 and 4 again provide preliminary confirmation of the hypothesis. Table 3 illustrates that JI-linked radical madrassah association is correlated with a more direct role in terrorist attacks, although it only reaches the .10 level (trend only). Its coefficient is also lower than that of JI-linked radical madrassah attendance, although it is more robust to changes in the Javanese ethnicity variable.[45] Afghan and other training are again strongly associated with increased role and highly significant, and Javanese ethnicity is inversely correlated and significant. Table 4 demonstrates that JI-linked radical madrassah association is correlated with a decrease in one's probability of Level 1 and Level 2 involvement (−15.5 and −1.2%) and an increase in one's probability of Level 3 and Level 4 involvement (12.1 and 4.6%).[46]

Tables 3 and 4 clearly show that replacing JI-linked radical madrassah association with Lukmanul Hakiem association strengthens the results greatly. Association with Lukmanul Hakiem has the strongest coefficient of any of the madrassah variables to this point and is significant at the .05 level. Table 4 dramatically illustrates this point. Lukmanul Hakiem association is correlated with a decrease in one's probability of Level 1 and Level 2 involvement by −21.4 and −14.8% and an increase in one's probability of Level 3 and Level 4 involvement by 23.3 and 12.9%. This confirms the fifth hypothesis that Lukmanul Hakiem association should be highly correlated with a more direct role on a terrorist activity.

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The final two analyses (ordered logits on radical madrassah association and Lukmanul Hakiem association) demonstrate an important point, namely that Marc Sageman's theory about tight knit social networks may be highly applicable to radical madrassahs, even though he initially saw top down recruitment (traditional view of madrassahs) as a substitute for tight knit social networks. At the very least, this analysis demonstrates that top down recruitment/ideological indoctrination (which is generally associated with madrassah attendance) is potentially only part of the explanation for why madrassahs are associated with terrorism. If top-down recruitment/ideological indoctrination was the sole explanation for radical madrassah correlation with terrorism, it would be expected that the Lukmanul Hakiem association variable would be insignificant, particularly because the majority of individuals in the dataset were only associated with Lukmanul Hakiem, not actual students of it. Not only was it significant, but it also had the strongest marginal effects of any of the madrassah variables. The top- down recruitment/ideological indoctrination is contextualized around students, and as such provides no explanation for why association might be important. The case studies that follows illustrate that this association can result in tight-knit networks that result in mutual radicalization, just as Sageman hypothesized for non-madrassah networks.

Case Studies

Lukmanul Hakiem

Around 1991, Ali Ghufron (alias Muklas) founded Lukmanul Hakiem at the request of JI founders Abdullah Sungkar and Abu Bakar Ba'asyir. Lukmanul Hakiem was modeled on the JI leaders' original *pesantren*[47] in Ngruki and became a symbol of JI's strategy of creating or linking up with schools that served as recruitment channels for future jihadists. Lukmanul Hakiem provides a nice illustration of the argument that madrassahs often serve as both recruitment tools and focal points. The JI bombers Amrozi, Mohammed Rais, Ismail, and Tohir were educated at Lukmanul Hakiem. From there they socialized into the network and were later recruited to take part in terrorist operations, often from teachers or administrators at the school. For instance, Top used his role as principal at the school to form ties with students Ismail, Tohir, and Mohammed Rais and to later recruit them to serve on the Marriott operation—a combination of social networks and indoctrination.[48]

Lukmanul Hakiem's role extended beyond ideological indoctrination/top-down recruitment. Ba'asyir, Sungkar, Ali Ghufron, Noordin Top, Win Min bin Wan Mat, Abu Dujana, Zulkarnaen, and Mohammed Rais (all of whom were involved in either the Bali I or Marriott operations) all taught there. Ali Ghufron and Noordon Top served as principals at the school and the famous JI bombmaker Azhari was a board member there. During the 1990s the core of the Bali bombers—Imam Samudra, Azhari, Noordin Top, Win Min Wan Mat, Amrozi, Ali Imron, Ali Ghufron, and Idris—were all associating together there and listening to Sungkar's sermons about *jihad*. Many of the 2001 Singapore JI truck bomb plotters (this attack was eventually foiled in 2001) also associated there, including Ja'afar bin Mistooki, Hashim bin Abas, Faiz Bafana, Fathi Bafana, Mas Kastarai, and Haji Ibrahim bin Haji Maidin (to name only a few).[49]

It was during the 1990s that the core of JI coalesced at Lukmanul Hakiem.[50] The majority of this core was simply associated with the madrassah—they taught there, commuted there to listen to sermons, or moved there to associate with fellow radicals. Many

of these individuals already had militant training in Afghanistan and were already committed jihadists. *As such, a simple top-down indoctrination story is not complete.* A better way of thinking about this is the focal point theory outlined earlier. Most of these individuals were cut adrift after their Afghanistan training/fighting in the late 1980s and early 1990s. They basically had nowhere to go (many were exiles from Indonesia and could not reenter the country) and had few discernable non-military/religious skills that could be put to use. Through personal invitations from JI leaders and from their own Afghanistan contacts, these individuals ended up at Lukmanul Hakiem where their previous militant beliefs were reinforced and further radicalized by their ongoing association with each other.[51] This radicalization occurred through lectures by Sungkar and Ba'asyir, Quranic study groups jointly attended by the before-named individuals, and ongoing acquaintanceship circles that were built around the madrassah, but which also extended outside the madrassah. Lukmanul Hakiem became the center of these individuals' social and sometimes work networks and was a magnet that attracted trained jihadists from around Southeast Asia to meet and fellowship together.[52]

There was certainly some top-down indoctrination that occurred during this time, as evidenced by the importance of Sungkar's lectures. However, to identify this explanation as the sole mechanism behind the association between Lukmanul Hakiem and terrorism would be to completely discard the entirety of other activities such as friendships, study groups, and business relationships that revolved around the madrassah. For example, an International Crisis Group report notes that "Lukmanul Hakiem became the nerve centre of Mantiqi I, most of whose leading members were associated with it in some way."[53] The report also notes that numerous jihadists found wives there, including Hambali, which points to its role as more than just an indoctrination vehicle.[54] As Marc Sageman has noted, individuals need a link to the terrorist network to become involved. However, they often tend to become radicalized via association with each other rather than solely through top-down indoctrination. Clearly both of Sageman's necessary conditions were met here. As noted earlier, the level of association was quite high and extended above and beyond Sungkar's lectures. However, these individuals also made contacts with Hambali and later Noordin Top, both of whom would serve as their link to money and operations. Hambali and Top would personally direct and finance every JI bombing from 2000–2005. They were the gatekeepers for these bombings and Lukmanul Hakiem was a magnet from which they recruited a large base of their attackers.

Other JI-Linked Madrassahs

The author recently had the opportunity to interview a graduate of a JI-linked madrassah (hereafter denoted as Ali).[55] Ali provided an illuminating look at the mechanics of top- down recruitment *and* small-group dynamics at JI-linked madrassahs. According to Ali, JI madrassahs feature external study groups, or "halaqahs." Halaqahs are small discussion groups of about 10 people that take place outside of the classroom/curriculum (extracurricular). They are led by a teacher and a lead student. These small groups are one of the most defining aspects of the madrassah experience and serve as basic discussion forums for a wide range of issues. For example, the JI curriculum (dubbed MTI, which focuses on the "unity of faith," "jihad," and "state, ba'ait, and the nature of the jemaah") is addressed only in halaqahs, NOT in the general madrassah curriculum. According to Ali, this is true for all of the JI-linked madrassahs. These groups have aspects of both top-down indoctrination

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(teachers give their interpretation of the material) and small-group dynamics (there is ongoing student interaction and sometimes mutual radicalization outside of the classroom). In fact, halaqahs are probably the best example of the fusion of small-group dynamics and top-down recruitment. These small groups are pivotal for (1) inspiring students to discover jihadist reading materials outside of class, (2) for developing strong bonds that continue after graduation, and (3) for creating cross-age group dialogues on issues ranging from the appropriateness of suicide bombing to implementation of sharia. From a top-down recruitment perspective, JI monitors these forums to see who is bright, industrious, and interested, but also who has the "right ideological perspective." Upon graduation, the best and the brightest from these halaqahs are not recruited immediately, but are sent on to jobs to be monitored by a JI member/contact. After one year they are then approached. Ali himself was approached to take part in a suicide bombing in the mid-2000s, but declined as he disagreed with the use of suicide bombings in Indonesia.

Discussion and Policy Ramifications

Discussion

As noted before, the aforementioned statistical and case study analyses should be viewed as highly preliminary. These analyses are subject to a number of selection effects—notably missing data—for which it is impossible to completely control. However, even with imperfect data, one can still comment on important patterns within the limitations of the study. This analysis is one of the first attempts to systematically test the madrassah debate using (relatively) large-N data analysis. With this in mind, it is important to outline what one can learn through this analysis and what effects it has on current understanding of madrassahs.

There are four important findings in this analysis. These findings are specific to Indonesia and Malaysia. The article is not generalizing the findings to South Asia (Pakistan) or even all of Southeast Asia where madrassahs are also important. This was the major problem with Bergen and Pandey's analysis—they focused mostly on Al Qaeda and then generalized this analysis to the world based on a small number of cases. Rather, this article utilizes the case of JI in Indonesia and Malaysia to argue that JI-linked madrassahs may actually be quite important in certain contexts in Indonesia and Malaysia.

First, the JI-linked radical madrassah attendance rates of those involved in terrorist operations are significantly higher than that of the Indonesian population. This high-level analysis does *not* highlight the mechanism for why this education association is important. However, it does provide a counter to the argument that madrassahs are not associated with terrorism.

Second, this analysis demonstrates that *only* JI-linked radical madrassah attendance (not all madrassah attendance) is reliably associated with an increased role in the Bali, Marriott, and Australian embassy bombings. Although the general madrassah analysis demonstrated a greater role relative to those who did not attend a madrasasah, the lack of confidence in the data means that one cannot be certain of its validity. This is particularly true given that the general madrassah category is weighted more heavily toward radical madrassahs (37 of 49 individuals who attended a madrassah were at a radical madrassah). As such, analysts should be very careful about making broad proclamations about the links

between madrassahs and terrorism. This is particularly true in Indonesia where there are approximately 14,000 madrassahs,[56] many of which are state regulated and administrated. It will be important for future work to examine the effect of general madrassahs on one's likelihood to take part in terrorist operations, given that this analysis has focused on operational role due to data constraints.

The fact that JI-linked radical madrassah attendance is significantly correlated with increased role in terrorist bombings has some bearing on the current debate. As noted before, this does not identify the mechanism behind this correlation. The argument is that radical indoctrination of young males by radical elites creates a cadre of recruits who are not only willing to take part in terrorist operations but also willing to take decisive roles in these operations. Scott Atran (a professor at the University of Michigan and the City University of New York) and the author are working on a series of studies that examine how the belief systems of radical and moderate madrassah students change as they progress through their educational systems. To provide preliminary evidence in support of this hypothesis, one would need to be able to show that beginning level moderate and radical madrassah students do not have statistically significant differences in belief systems upon entering their schooling. This ensures that differences are not based on parentage, geographical differences, SES, and so on. However, upon reaching the culmination of their studies, they should have statistically significant different belief systems, particularly with respect to jihadist violence. For now, the ordered logit analysis outlined in this article demonstrates that the argument is plausible and that there is a significant association. As such it is more difficult to argue that radical madrassahs are not important at all.

Third, this analysis has demonstrated that JI-linked radical madrassah association is also important. To date, most of the work on madrassahs has argued that attendance is what counts. This results from the erroneous belief that the madrassah experience as it relates to terrorism is defined only by top-down ideological indoctrination/recruitment. The article has argued that radical madrassahs should be thought of as focal points that help bring together like-minded radicals. For young, inexperienced males, radical madrassahs can indoctrinate (or reinforce for those who already enter radicalized) and provide an opportunity to take part in terrorist training or attacks. As such, radical madrassahs can affect both the belief system and the skill set necessary to be a terrorist. For experienced jihadists (such as those who returned to Lukmanul Hakiem after three-year stints of training in Afghanistan in the 1980s and 1990s), radical madrassahs can serve to connect these individuals with other jihadists, radicalize them further,[57] and connect them with individuals who can provide the money and tactical plans to operationalize their hatred, even if this operationalization occurs years later. The statistical analysis in this article does not prove this theory; however, it does provide preliminary support that this is a plausible explanation, as association is strongly correlated with attack role. In fact, Lukmanul Hakiem association is much stronger and more robust to changes than radical madrassah attendance. As noted before, if ideological indoctrination was the sole explanation for the correlation between radical madrassah association and terrorism, one would expect the Lukmanul Hakiem association variable to be insignificant and weak, particularly because the majority of individuals in the dataset were only associated with Lukmanul Hakiem, not actual students of it. The ideological indoctrination story is anchored on the teacher–student relationship at madrassahs, and as such provides very little explanation for why association might be important. This demonstrates that there is probably more at work in the madrassah– terrorism link than simple top-down recruitment and indoctrination.

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Policy Ramifications

From a policy perspective, the big finding is that analysts should not throw the baby out with the bathwater. It is true that not all madrassahs are radical, as Evans has pointed out. It is also true that madrassahs were not important for Al Qaeda operations, as Sageman and Bergen have noted. However, JI-linked radical madrassahs have been strongly associated with attacks.

What should be done? An obvious place to start is by focusing intelligence efforts on the networks of radical madrassahs that have continually produced violent jihadists. Two madrassahs in particular, Lukmanul Hakiem and Ngruki, have produced an astonishing stream of bombers since 2000. By focusing on these networks, counterterrorist officials can narrow their intelligence-gathering to a much smaller group of individuals. However, there is some evidence from the Australian Embassy and Bali II bombings that the radical fringe of JI is recruiting outside of the traditional Lukmanul Hakiem and Ngruki homes for bombers, as these networks have been decimated by arrests. Dar us-Syahadah, al-Islam, al Muttaqin, al-Hussein, and the university-style madrassah an-Nur are five JI-linked radical madrassahs that have in recent years produced a significant number of bombers, particularly for the Australian Embassy and Bali II bombings. If and when the Lukmanul Hakiem (which was closed in 2002) and Ngruki networks dry up, these madrassahs may serve as the future foundation. One potential critique is that extremists continually evolve their methods and recruiting techniques. Thus, by focusing on previous networks, counterterror officials potentially are allocating their resources to the wrong areas. The author believes this is false based on the history of JI since 2000. JI has historically recruited from the same hubs, even as the post-Bali arrests have weakened these networks. Given the lack of historical variation, there is no reason to believe that JI will suddenly transform its tactics.

Another important policy focus is to try to engage moderates within JI and its network of radical madrassahs. JI is and has been since 2000 a fractured organization, with moderates (those individuals that do not believe in indiscriminate attacks) and extremists (those that do believe in indiscriminate attacks like the Bali bombing) battling for control. Ba'asyir, the former amir of JI, has come out against terrorist bombings and now advocates a focus on changing policy through peaceful means. Indonesian officials should take advantage of this schism and attempt to bring moderates into the policymaking fold. A large number of radical madrassah graduates have been sucked into the support networks of bombers like Ali Imron, Mukhlas, and Noordin Top, even though they do not agree with their violent ideology. It seems that the ties that bind—madrassah relationships—are hard to break indeed. However, if madrassah leaders (with government encouragement) vocally support peaceful policy solutions and denounce radicals such as Noordin Top (who are increasingly isolated), it may be possible to gradually cripple the support networks that allow these radicals to continue their bombings. The fact that Ba'asyir, the founder of Ngruki, and others have come out against bombings is very hopeful.

Notes

2. *The Report of the High-level Panel on Threats, Challenges and Change* (New York: United Nations, 2004) defined terrorism as "any action ... that is intended to cause death or serious bodily harm to civilians or non-combatants, when the purpose of such an act, by its nature or context, is to intimidate a population, or to compel a Government or an international organization to do or to abstain from doing any act."

3. See Peter Bergen and Swati Pandey, "The Madrassa Myth," *The New York Times*, 14 June 2005 and Peter Bergen and Swati Pandey, "The Madrassa Scapegoat," *The Washington Quarterly* 29(2) (2006), pp. 117–125.

4. See Mark Sageman, *Understanding Terror Networks* (Philadelphia: University of Pennsylvania Press, 2004).

5. Alexander Evans, "Understanding Madrasahs: How Threatening are They?" *Foreign Affairs* 85(1) (2006), pp. 9–16.

6. JI was formed in 1993 by Abdullah Sungkar and Abu Bakar Ba'asyir after the two leaders split with the leadership of Darul Islam, a jihadist movement in Indonesia. JI focused on training, education, and indoctrination until 2000, when Hambali took over operational control of the organization after Abdullah Sungkar's death and implemented a series of bombings across Indonesia and the Philippines.

7. JI-linked refers to explicit and implicit linkages between the madrassah and the JI organization. These linkages run the gamut of affiliation from direct (the leaders of JI founded Ngruki and Lukmanul Hakiem) to indirect (many radical madrassahs have known and vocal JI sympathizers on their staff and implement the JI curriculum).

8. See Monisha Bansal, "Madrassahs Are 'Factories of Terror,' Policy Expert Asserts," CNSNews.com, 11 July 2005, for an example. See also National Commission on Terrorist Attacks. *The 9/11 Commission Report: The Final Report of the National Commission on Terrorist Attacks Upon the United States* (New York: W.W. Norton, 2004), which calls madrassahs "incubators for violent extremism." The PBS documentary, "A Saudi Time Bomb" (http://www.pbs.org/wgbh/pages/frontline/shows/saudi/analyses/madrassas.html) similarly highlights the linkage between terrorism and Saudi-funded madrassahs. These examples are actually moderate examples of the virulent anti-madrassah backlash following the 9/11 and the 2005 London Underground bombings.

9. Bergen and Pandey, "The Madrassa Myth."

10. Ibid.

11. The Salafi movement strives to restore Islam to the practices of Prophet Mohammed and his companions. According to Marc Sageman, the global, jihadist Salafi movement "advocates the defeat of the Western powers that prevent the establishment of a true Islamist state." See Sageman, *Understanding Terror Networks*, p. 1.

12. Ibid.

13. Evans, "Understanding Madrasahs," p. 10.

14. See Zachary Abuza, *Militant Islam in Southeast Asia: Crucible of Terror* (Boulder, CO: Lynne Rienner Publishers, 2003) and Zachary Abuza, "The War on Terrorism in Southeast Asia," in Richard J. Ellings and Aaron L. Friedberg, eds., *Strategic Asia 2003–2004: Fragility and Crisis* (Seattle: The National Bureau of Asian Research, 2003), pp. 321–364 for a brief history of radical madrassahs in Southeast Asia.

15. See Bergen and Pandey, "The Madrassa Scapegoat," p. 5.

16. See Sally Neighbour, *In the Shadow of Swords: On the Trail of Terrorism from Afghanistan to Australia* (Sydney: HarperCollinsPublishers Australia, 2004) for a discussion of the Bali bombing director, field commander, and coordinators.

17. See Bergen and Pandey, "The Madrassa Scapegoat," p. 8.

18. Moderate madrassah students, as well as other boarding school students, are similarly isolated. However, they are less likely to be in an action-oriented, jihadist environment and less likely to receive extremist indoctrination (noted later in the text).

19. This outlet does not have to be immediate, although of course this is a possibility. A more likely scenario is that the relationships formed with terrorist leaders can be leveraged years later.

This is in fact what happened in many cases with the JI-linked pesantrens like Ngruki and Lukmanul Hakiem. As such the training and operational "outlet" should be thought of as a long-term process in which individuals are brought into the informal network and then later operationalized.

20. This database, from which the statistical analysis in this article is derived, will be partially available by early 2008 on the City University of New York website.

21. Role is scaled in the following way: 0 = No role. 1 = Minor role— Harboring/Network Facilitation. 2 = Moderate Role—Procuring the weapon or the vehicle; moving the weapon or the vehicle; pivotal network facilitation. 3 = Major Role—Making the bomb; handling the logistics of the bombing; attack implementation; bomber recruitment. 4 = Complete Commitment—Directing the bombers' activities; developing the plan; willful provision of funds for the acquisition of bombing materials; suicide bombing.

22. Education level is scaled in the following way: 0 = No high school. 1 = Some high school. 2 = High school graduate. 3 = Some college. 4 = College graduate. 5 = Some graduate. 6 = Graduate school degree.

23. Radical madrassah association is defined as attending, teaching at, providing administrative or board support to, attending lectures/sermons at, or hanging around a radical madrassah.

24. To be included in the dataset (1) a jihadist had to have taken part in a JI terrorist attack and (2) there had to be credible evidence of his role on the attack. Credibility is based on a rigorous four-point scale: 0 = not credible; 1 = somewhat credible; 2 = credible; 3 = very credible. To be included in a database, the information had to be coded as 1 or above. Credible evidence includes trial testimonies, police interrogation reports, International Crisis Group reports, media reports based on court testimonies, government documents, and so on. It goes without saying that to include a jihadist in the statistical analysis, the author had to be able to locate information on all independent variables.

25. The Bali I bombing of 2002 is both the most lethal and the most famous JI attack. On 12 October, two JI suicide bombers detonated their bombs at Paddy's Bar and Sari Club in Bali, Indonesia, killing 202 people and injuring another 209.

26. The Marriott bombing marked the beginning of the transition from Hambali-led attacks to Noordin Top–led attacks. The bombing occurred on 5 August 2003, when a suicide bomber detonated a bomb outside the Jakarta Marriott in Indonesia, killing 12 people and injuring 150.

27. The Australian Embassy was the first JI bombing led entirely by Noordin Top, without funding or direction from Hambali. The bombing occurred on 9 September, killing 11 and wounding approximately 140 people. Heri Golun, the suicide bomber, detonated a car bomb outside the embassy and subsequently died in the explosion.

28. Ken Ward, Ken. Private e-mail correspondence. 2006.

29. In fact, several of the radical jihadists that played important roles in this sample attended these schools.

30. The author is unable to answer a fourth question—How important is the combination of radical madrassah attendance and militant training in determining the role one has on a terrorist operation?—due to current data constraints.

31. There were six individuals who took part in multiple attacks.

32. An alternative would be to average the role scores for the three attacks for each individual. However, this is problematic for the current theory because it assumes that an individual explicitly chooses not to take part in attacks for which he is not a participant. In actuality a majority of the individuals do not take part in multiple attacks because they are either arrested (most of the major Bali I bombers were arrested), killed, or on the run (Dul Matin and Umar Patek, two Bali bombers who were not arrested, fled to the Philippines). As such, an attempt to average scores would lead to an extreme bias in the analysis.

33. Ba'asyir and Sungkar were forced into exile in Malaysia in the mid-1980s. Much of the JI leadership followed, including Mukhlas, who founded Lukmanul Hakiem at their behest.

34. For this group, there are 4 individuals who could have been involved in Marriott, 19 for Bali, and 12 for the Australian Embassy attack. For most within this group, there is not even enough information to be confident that they took part in an operation. As such, it is impossible to discern how much of a selection effect there is.

35. The Philippines Ambassador Residence bombing was the first attempt by JI to create a complex Al Qaeda–style car bombing. The bombing occurred on 1 August 2000, injuring the ambassador and killing his security guard and an innocent bystander.

36. Indonesia Department of Religion. 2006. *Statistik Pendidikan Agama & Keagamaan: Tahun Pelajaran 2004–2005.*

37. Ward, private e-mail correspondence; Ismael, Noor Huda, private e-mail conversation, 2006; International Crisis Group, *Terrorism in Indonesia: Noordin's Networks. Asia Report No. 114* (5 May 2006). An example of Indonesian sources Ismael and Ward utilized include *Tempo*, 16 September 2004; *Gatra*, 7 November 2003; *Suara Merdeka*, 24 October 2005.

38. Ward, private e-mail correspondence.

39. Using the JI-linked radical madrassah information from Table 2 , the author calculated the average number of students educated for these five madrassahs based on the number of individuals who could have passed through their systems during the period from their foundation dates to 2004, the date of the last JI bombing. This actually inflates the total possible number of people from the general population who could have been educated there, making it more difficult to prove my theory. The average is approximately 16,500 students per madrassah with a standard deviation of 25,000 students. The standard deviation is exorbitantly high because Ngruki was founded over 20 years before the other 4 schools and educated 800 more students a year than the next largest school. Because the deviation is larger than the mean, this analysis will only be using the upper deviation to see if the madrassah attendance rates of the population could conceivably reach the 49.3% rate of the terrorist sample. The large standard deviation actually makes it more difficult to prove the current theory given that it increases the upper bound of the confidence interval. The author multiplied the average, 16,500, times the total number of JI–linked radical madrassahs, 18, and constructed the confidence interval for the numerator (total number of people who could have been educated at JI-linked radical madrassahs). The mean is 297,000 and the upper bound (based on one standard deviation from the mean) of the confidence interval is 750,000. For the denominator, the author utilized data from the Indonesian government on the total number of junior and high school students in Java for 2004–2005 (11.2 million). See Indonesia Department of Religion, *Statistik Pendidikan Agama & Keagamaan.* Because the terrorist sample includes individuals who attended JI-linked radical madrassahs from the 1980s until 2004, the author imputed previous attendance rates by taking the 2004–2005 estimates and subtracting 2% for each previous year based on Indonesian population growth rates. Because junior and senior high school lasts approximately 8 years, the analysis only utilized three points in time to ensure that all students in the junior and high school system were completely new for each data point— 2004, 1996, and 1988. The estimated 2001 Indonesian growth rate was 1.6%, so by using a slightly larger rate the author decreased the overall student population $[(n\text{-}1) = n\text{---}(.02n)]$ for the years of 1988 and 1996, which again makes it more difficult to prove the theory. The total number of unique students in the junior and senior high educational system during this period was 28.8 million. Thus the rate of JI-linked radical madrassah attendance for the general population is estimated at 1% or 297,000/28.7 million for the period from the 1980s to 2004. The upper bound of the confidence interval based on one standard deviation is 2.6%, or 750,000/28.8 million. In order to reach a 49.3% rate for the population, it would require over 30 standard deviations. This is actually impossible because Indonesian governmental statistics demonstrate that only 20% of students attend private madrassahs. At 13 standard deviations, the percentage of students that would be educated at private madrassahs surpasses the 20% threshold. Thus, 12 standard deviations from the mean is the complete upper bound for the entire analysis. At this point, the general population only has a 19.9% radical madrassah attendance rate, which makes it impossible for it to reach the 49.3% rate of the terrorist population.

40. This statement is robust to changes in the denominator (for instance only using 2004–2005 student numbers instead of three points in time).

41. For reminder of the operational role scale, see note 21.

42. Ward, private e-mail correspondence.

43. If the Javanese ethnicity variable is dropped, the significance level of radical madrassah attendance drops slightly below.10. As noted before, Javanese ethnicity seems to be strongly associated with a lesser role. Radical madrassah attendance is robust to other changes to independent variables. Although this raises some concern over the general robustness of the radical madrassah attendance variable, the author believes there is no theoretical reason to drop the Javanese ethnicity variable, particularly given the importance of Javanese harboring networks and the Mantiqi structure of JI. A decision to drop the Javanese variable given these theoretical explanations would be based solely on a desire to affect the madrassah variable, which seems theoretically problematic. This does mean that the results have to be treated as preliminary. Future research that utilizes a more robust dataset and hopefully more attacks should provide a more authoritative answer to the relative importance of the Javanese ethnicity variable.

44. The results for general madrassah attendance and radical madrassah attendance are fairly similar in Table 4. As noted before, this stems from the fact that the general madrassah variable is weighted more heavily toward radical madrassah attendance.

45. Removal of the Javanese ethnicity variable has very little effect on the coefficient or significance.

46. This section only highlights the marginal effects for the madrassah variables in question. Marginal effects for all other variables can be referenced in the appropriate tables.

47. As noted before, pesantrens are Islamic boarding schools.

48. An alternative explanation highlighted by Robert Axelrod is that Noordin Top affected each of the Marriott recruits solely through his teaching. This is clearly consistent with the data. However, the author believes an explanation that is grounded in both networking and ideological indoctrination is more consistent with what is known about Lukmanul Hakiem through the work of Neighbour, *In the Shadow of Swords*; International Crisis Group, *Terrorism in Indonesia*; International Crisis Group, *Jemaah Islamiyah in Southeast Asia: Damaged but Still Dangerous. Asia Report No. 63* (26 August 2003). This is particularly true given that the individuals were recruited years after their tenure at Lukmanul Hakiem, which points to the fact that the creation of a *durable* network of ties was equally important to, if not more important than, immediate indoctrination. Clearly the study of terrorism presents a problem for complementary explanations because there is rarely a chance to test them with large-N databases. For now, it is sufficient to recognize that both explanations are plausible.

49. See the trial transcripts for Ja'afar bin Mistooki, Faiz Bafana, and Hashim bin Abas. They discuss the weekly lectures and study groups that occurred at Lukmanul Hakiem, which formed the basis for a radicalized network of friendships and acquaintances. This was important for the Christmas Eve bombings, which all three took part in. The Christmas Eve bombings were a series of bombings at Christian churches in 11 cities in Indonesia. They were envisioned by Hambali as a way to foment conflict between Christians and Muslims throughout Indonesia.

50. See Neighbour, *In the Shadow of Swords*. Lukmanal Hakiem also served as the command center for Mantiqi I.

51. See Neighbour, *In the Shadow of Swords*; Mark Sageman, private conversation in Rockville, Maryland, April 2006; June 2006. Private telephone conversation in July 2006.

52. Ibid.

53. ICG, *Terrorism in Indonesia*, p. 2.

54. Ibid.

55. Specific details about the school are withheld to hide the individual's identity.

56. Ward, private e-mail correspondence.

57. This is what happened at Lukmanul Hakiem in the 1990s. Radicals such as Hambali and Imam Samudra were radicalized further by the sermons of Sungkar and the tight-knit networks that were formed by like-minded individuals. See Neighbour, *In the Shadow of Swords*.

58. By utilizing the maximum number of people in the general population that could have attended radical madrassahs, the analysis inflates the general population radical madrassah attendance rates. This makes the analysis more difficult as the author is trying to demonstrate that the general population rates are significantly lower than terrorist rates.

Appendix: Tabular Statistics for Independent Variables

Age distribution

Age	Freq.	Percent
23	1	1.35
24	2	2.7
25	5	5.41
26	4	5.41
27	5	6.76
28	5	6.76
29	3	4.05
30	1	1.35
31	5	6.76
32	4	5.41
33	2	2.7
34	1	1.35
35	5	6.76
36	6	8.11
37	3	4.05
38	3	4.05
39	3	4.05
41	2	2.7
42	1	1.35
43	3	4.05
44	2	2.7
46	3	4.05
47	1	1.35
49	1	1.35
51	1	1.35
56	1	1.35
57	1	1.35
68	1	1.35
Total	75	100

Education distribution

Level	Freq.	Percent
0	5	6.67
1	4	5.33
2	40	53.33
3	12	16
4	11	14.67
5	1	1.33
6	2	2.67
Total	75	100

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Age distribution *(Continued)*

Java ethnicity

Age	Freq.	Percent
0	31	41.33
1	44	58.67
Total	75	100

General madrassah attendance

Gen Attend.	Freq.	Percent
0	26	34.67
1	49	65.33
Total	75	100

Radical madrassah attendance

Radical Attend.	Freq	Percent
0	38	50.67
1	37	49.33
Totals	75	100

Radical madrassah association

Radical Assoc.	Freq	Percent
0	29	38.67
1	46	61.33
Totals	75	100

Lukmanul Hakiem Association

Lukmanul	Freq	Percent
0	58	77.33
1	17	22.67
Totals	75	100

Occupation—Unskilled/Skilled

Occupation	Freq	Percent
0	68	90.67
1	7	9.33
Totals	75	100

No, Yes

Leadership	Freq	Percent
0	54	72.00
1	21	28.00
Totals	75	100

Other training

Other Training	Freq	Percent
0	40	53.33
1	35	46.67
Totals	75	100

Afghanistan training

Afghan Training	Freq.	Percent
0	56	74.67
1	19	25.33
Totals	75	100

Connecting the dots

By Scott Atran and Marc Sageman
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How do terrorists become radicalized? What motivates them? Who supports them? Who among them is most liable to defect? We don't have reliable answers to these vital questions because of a dearth of relevant data.

Several extensive terrorist databases currently exist. But they are incident-based catalogs of terrorist names and events: who, what, where, and when. Conspicuously absent is the "why." The records illustrate the geographic distribution and frequency of attacks and focus on operations rather than on what drives the terrorists. The U.S. National Counterterrorism Center, for instance, maintains a central repository of 325,000 names of international suspects and people who allegedly aided them. The names, usually harvested from telephone or e-mail intercepts, are important to collect. But names and numbers alone don't indicate why an individual turned to terror. We can collect names and numbers endlessly, but until we understand the reasons behind terrorism, we will be underprepared to fight it.

A database that focuses on the complexities of people, rather than incidents, would be the best way to better understand and predict terrorist behavior. To that end, we have piloted a database that now includes more than 500 people involved in global network terrorism (GNT).

Our database comprises two parts. The first is a detailed categorization of basic biographical and socioeconomic information, including nationality, ethnicity, occupation, and religious upbringing. The second addresses the vast network of connections--the glue that holds the diverse array of terrorists together--and includes data on acquaintances, family ties, friendships, and venues for terrorist training. Such an approach is crucial since the growth of GNT is largely a decentralized, evolutionary process. And, as in any natural evolutionary process,
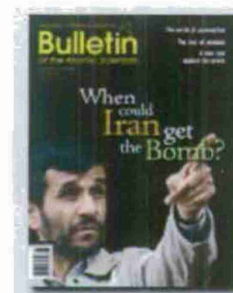
individual variation and environmental context are the critical determinants of future directions and paths.

Building this database is not without challenges, such as assessing the reliability of available information. We avoid accounts of terrorist attacks reported by the popular media since these are often based on anecdotal evidence that remains uncorrected and "echoes" over time to give error-prone sources a misleading credibility and importance. Instead, we rely as much as possible on legal documents, captured information, and intercepted conversations entered into trial evidence and court transcripts because these are subjected to cross-examination and thus approximate "peer scrutiny" of evidence. Independently corroborated investigative reporting and field interviews are other good sources of data.

Preliminary results from our database already refute the two most common theories about GNT. We find no evidence of specific traits that indicate a personal predisposition toward involvement in GNT; terrorists are as diverse as the general population. Likewise, no broad "root cause" generates terrorists; millions of people are subjected to the same political and socioeconomic conditions, but very few resort to violent activities. Further, we learned that terrorists are very rarely recruited by strangers. Although most individuals enlist in terrorist groups outside their country of origin (about 80 percent), most do so through friendship (about 70 percent) and/or kinship (about 20 percent). The preferred terrorist cell size is eight members, often consisting of friends made during the critical period when a person is between the ages of 15 and 30. This suggests that studying the dynamics of small groups--a sort of "band of brothers"--might best reveal the processes that lead people to kill and to die for causes and comrades.

A more comprehensive database could test these preliminary hypotheses and inform interactive modeling that is more realistic than current models, which are built on incident-based data. Such a database must be freely available to academic, policy, and government communities--public access is critical to the peer review that characterizes science and is essential for quality control. Creating this database would help put terrorism research on a sound empirical footing, allowing future breakthroughs in understanding this phenomenon--and hopefully saving lives in the process.

Scott Atran is a research scientist at the National Center for Scientific Research in Paris, the University of Michigan, and the John Jay College of Criminal Justice. Marc Sageman is a political sociologist and a forensic psychiatrist, who was a CIA case officer working with Afghan fundamentalist militants.